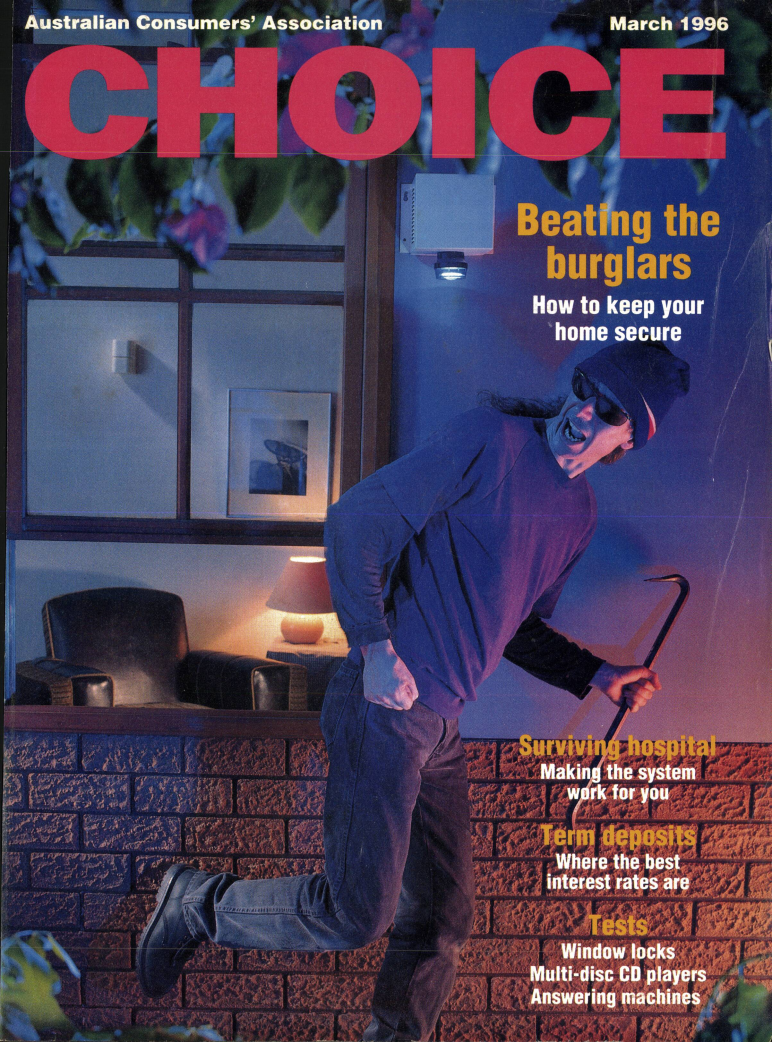
Australian Consumers' Association

March 1996

CHOICE



Beating the burglars

How to keep your home secure

Surviving hospital

Making the system work for you

Term deposits

Where the best interest rates are

Tests

Window locks
Multi-disc CD players
Answering machines

About the Consumers' Association

The Australian Consumers' Association is a non-profit, non-party-political organisation established in 1959 to provide consumers with information and advice on goods, services, health and personal finances, and to help maintain and enhance the quality of life for consumers.

We are completely independent. We buy all the products we test on the open market. We are not beholden to any commercial, government or union interests, and we don't accept advertising, paid or unpaid. Our income is derived from the sale of CHOICE and our other publications and products.

We test and rate products and services. Our CHOICE ratings are usually based on quality without regard to price, and are derived from lab tests, expert judgments and reader surveys. If a product is high in quality and relatively low in price, we deem it a Best Buy. A rating applies only to the brand and model tested, not to other models sold under the same brand name, unless so noted. We can't conduct special tests or provide information about tested products beyond what appears in CHOICE.

No commercial use policy. Our ratings and reports may not be used in advertising or for any other commercial purpose. The Consumers' Association will take all steps open to it to prevent commercial use of its materials, its name, and the name of CHOICE or our other publications. Please report any apparent violation to the Consumers' Association, 57 Carrington Road, Marrickville 2204; fax (02) 558 9341.

We represent and act in consumers' interests. We lobby and campaign on behalf of consumers to promote consumers' rights, to influence government policy, and to ensure consumer issues have a high profile in the public arena.

Membership. Subscribers can become voting members of the Consumers' Association on application. Membership costs $75 per year, which covers your subscription to CHOICE plus a further subscription to our policy magazine, *Consuming Interest*.

About CHOICE

CHOICE is published monthly by the Australian Consumers' Association.

Subscription rates. $48 for one year, $89 for two years; institutions $66 per year.

Subscription problems or changes of address. Write to Subscriptions Department, CHOICE, 57 Carrington Road, Marrickville 2204, phone (02) 558 8088 or fax (02) 559 3260. Please include your subscriber number (found in the top corner of your CHOICE address label) or have it ready by you when you phone us.

Back issues. Subscribers can buy back issues at the following rates: $6 for one copy, $10 for two, $13 for three, and $4 each after that. Non-subscribers can purchase back issues that are less than 12 months old for $16 per copy; more than 12 months old, $10. Write to Consumer Information Service, CHOICE, 57 Carrington Road, Marrickville 2204, or phone (02) 559 9855.

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Mailing lists. We never sell the CHOICE mailing list to other organisations. We also don't purchase mailing lists for marketing purposes from other organisations.

Other Consumers' Association products

CHOICE Books publishes non-fiction titles on a wide range of topics, with a consumer perspective.

Consumer Bookshelf offers both CHOICE Books and material from other publishers for sale by mail order.

CHOICEFax supplies faxed copies of many CHOICE articles for $6 per article to subscribers, $16 to non-subscribers. Call (02) 558 8088 to order an article, using your credit card details.

Test Research provides fee-for-service testing of consumer products for other consumer organisations, government and industry. Contact Jeanette Dwyer on (02) 559 9801.

Consuming Interest, our quarterly campaigning magazine, is published in February, May, August and November. It provides straight facts, probing analysis, in-depth reporting, informed opinion and stimulating debates. It also gives updates on the lobbying and campaign projects of the Consumers' Association.

CHOICE Travel. This magazine is produced by the UK Consumers' Association and reprinted by CHOICE four times a year. Its reports are independent in the same style as CHOICE and, while they're written from the perspective of a European base, most of the information in them is just as useful to travelling Australians.

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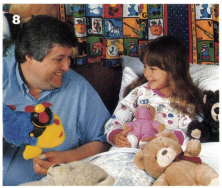


Coming in the next three issues

Tests: 34 cm TVs, gas heaters, laundry detergents, car steering wheel locks, kitchen knives, Internet service providers, exterior paint, milk, CD-ROM encyclopaedias.
Reports: Genetic engineering in food, the basics of superannuation, toothpaste, how to choose a lawyer, new surgical techniques, pay TV vs free-to-air, buying a new bathroom, carpet cleaning methods, car security, personal super, health insurance, cold and flu treatments, brand ownership.

We try to bring you tests and reports in the planned month, but sometimes have to move an article because of problems that occur during testing or research, or for lack of space in a particular issue. We apologise if this causes any inconvenience.

Choice Regulars

4 Choice Cuts
Banned fire extinguishers; shirt sizes; problems with franchises; do electronic pest repellers work?

6 Your Money
Where to go for the best interest rate on a term deposit.

28 Computing Choice
Exactly what's inside the grey box that is your computer?

30 Consumer Bookshelf

38 Letters
Identifying lost pets; trouble with cooktops; giving away your Fly Buys.

46 What do you know?
Our regular consumer quiz.

46 Recalls and bans.

Choice Reports

8 Your hospital survival kit
If you're heading into hospital, being prepared can make all the difference. Our complete guide tells you what to expect and how to cope. It includes a discussion of the pros and cons of going private, and when you may be better off as a public patient.

16 Securing your home
What makes your home a target for thieves, and how to put them out of business.

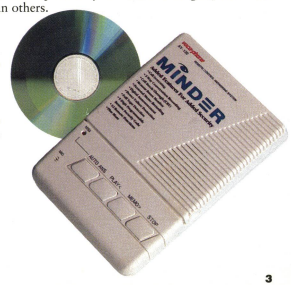
20 Home alarm systems
One in eight burglars finds an open invitation in the form of an open window or door. But for the security-conscious an alarm can provide a high level of protection, in addition to simple precautions like locking up. We look at what's available, and what you should consider when buying an alarm.

Choice Tests

23 Window locks
Many insurance companies insist you install them, but just how good are they? None of the locks tested would stop a really determined burglar, but some definitely hold out longer than others.

33 Multi-disc CD players
Just another techno-fad, or a really worthwhile addition to your hifi component system?

41 Answering machines
So many features it's hard to know where to start — we give you all the answers … after the beep.



Green measures

CHECK YOUR FIRE EXTINGUISHER

IT'S NOW ILLEGAL TO USE portable yellow fire extinguishers — they've been banned throughout Australia to help save the ozone layer.

These extinguishers contain halon, a fire-retardant gas, which is up to 16 times more damaging to the ozone layer than chlorofluorocarbons (CFCs). The gas from a single 1 kg extinguisher can destroy 50 tonnes of ozone.

This type of fire extinguisher is widely used in homes, vehicles, boats, caravans and garden sheds.

If you have one of them, take it to your nearest staffed fire station. Larger organisations should take them to a Department of Administrative Services Centre for Environmental Management (DASCEM) depot or fire protection company.

Halon from surrendered extinguishers will be converted into environmentally safe by-products by the DASCEM Halon Bank.

For further information call 1800 658 084.

Federal Environment Minister, Senator John Faulkner, with the yellow halon extinguisher it's now illegal to use in Australia.

Do they work?

PEST REPELLERS: PART 1

WE'VE RECENTLY RECEIVED dozens of calls from readers wanting to know whether ultrasonic pest repellers really work. In the past we've simply said that, based on overseas studies we've seen, we think it's unlikely. This is a view shared by two experts we spoke to.

Dr Chris Orton, director of the Centre for Entomological Research and Insecticide Technology at the University of NSW says: "Over the years we have tested a number of ultrasonic pest repellers, and to date have not found them to effectively control insects."

Peter Miller, associate professor at the Department of Health Sciences at the University of Technology in Sydney, says that while the department hasn't tested these devices, "The literature published in reputable scientific journals suggests they have no significant effect on cockroach population numbers."

We asked one company which supplies a device it claims will repel many pests — including spiders, rats and ticks — with "hearing that responds to sonic and ultrasonic pulses" to send us proof that its device works. They sent us a test report put together by the UK Government's Ministry for Agriculture, Fisheries and Food Central Science Laboratory.

We were surprised to read in the test report that the device was *unlikely* to keep "food premises clear of rats over an extended period", but it did say it might enhance the "efficiency of traditional poison baiting techniques".

After seeing the evidence offered by the distribution company and talking to experts, we still have no reason to believe these devices work.

PEST REPELLERS: PART 2

WHILE WE WERE investigating ultrasonic pest repellers, we came across a company, Pest Free Australia, selling an electronic device claimed to repel pests by "disturbing" their nervous system.

According to the company, the device works by altering the electromagnetic field generated by your household's electrical wiring.

We invited the company to show us proof its device works. It sent us a test report from the American National Testing Institute, as well as dozens of testimonials by satisfied customers.

Dr Orton (see Part 1) raised doubts about the validity of the report's findings — he had serious problems with the methodology used in the test.

The testimonials from satisfied customers included high schools, primary schools and small businesses which had used the product and were happy with it. We checked a few of the testimonials and they are genuine.

However, the evidence provided by the company is far from conclusive. We're not convinced the Pest Free device really works.

Shirt tales

THE FADING 40s

WHY IS IT SO HARD these days to find size 40 men's business shirts (that is, shirts with a 40 cm collar)? Subscriber Fred Bullen wrote to us wanting to know, and we were intrigued enough to follow it up. It turns out there's a reason for it — historical accident.

Years ago when shirt sizes changed from imperial (inches) to metric (centimetres), none of the old imperial sizes converted to 40 cm. The two nearest imperial sizes were 15½ inches (which became 39 cm) and 16 inches (which became 41 cm) — so 40 cm missed out.

There are some 40 cm business shirts around — but usually they're imported. Very few Australian manufacturers make size 40 shirts, and as with imported shirts, the size 40 shirts you can buy tend to be available in smaller numbers and with less variety. Department and speciality stores are more likely to stock size 40 shirts than chain stores.

Of course, if you're a consumer with a strictly 40 cm neckline who's feeling victimised, it's always possible to have a shirt tailor-made rather than purchase it off the rack, though this will usually be more expensive.

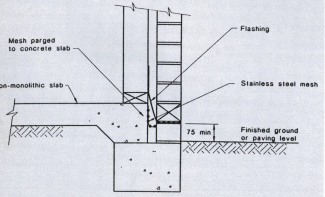
Updates

TERMITE INSPECTIONS

CHOICE, January 1996

On page 16 we printed a diagram showing Termi-Mesh forming a physical termite barrier by being installed under the complete concrete slab.

Termi-Mesh has informed us an alternative method is allowed under the Australian Standard, whereby the mesh is just installed in the cavity perimeter and around service penetrations through the concrete slab (see the diagram below). This is considerably cheaper than a complete under-slab installation.



CHOICE GUIDE TO CAMERAS AND CAMCORDERS

The model information supplied to us by Hitachi for most of its camcorders featured in this guide was not correct. The photos and features listed do not apply to three of the model numbers given.

Only the **HITACHI VM-H610E** is as pictured and described in the *Guide*.

Shopping

FRANCHISE HASSLES

TONY BENNER from Sydney recently bought a 3-in-1 fax machine from a Harvey Norman store in Sydney's outer west. When he found the fax wasn't working, he assumed he could get a replacement machine at a another Harvey Norman store closer to where he lived.

When he rang Harvey Norman head office, he was told to go back to the store of purchase — which was out of his way — because each store, and in fact each department within each store, was a separately owned and controlled franchise.

Mr Benner was eventually able to negotiate a deal with the original store of purchase to exchange the fax at another store — but only after he mentioned he was talking to CHOICE.

We don't think there's anything wrong in principle with franchising, but we do think there are potential problems if consumers aren't aware they're actually dealing with separate businesses, and not a chain of stores as many believe.

Gerry Harvey, chairman of Harvey Norman, admitted the franchise system sometimes causes problems when customers want a refund, or want to exchange a faulty product at a store which isn't the original place of purchase. Even obtaining a credit note to buy something in another department within the same store can be a problem — since each department is owned by someone different.

"It doesn't happen often enough for us to worry about," says Mr Harvey.

"What mostly happens is that [our franchisees] work as a team, and it tends to pay back for them. It's what usually happens, but not always.

"If there is a problem, the customer can ring head office to sort it out. We try to keep the customer happy."

Corrections

TERMITE INSPECTIONS

CHOICE, January 1996

In this article we said, "Chronic or repeated exposure to chlorpyrifos, such as exposure to residues of termite spraying, can have long-term health effects such as bronchial asthma and nervous system damage."

There is in fact no proven link between chlorpyrifos or its residues and any long-term health effects. We should have said that: "Poisoning with chlorpyrifos ('acute' exposure) can provoke asthma-like symptoms, headaches, fatigue, giddiness and nausea, and have delayed health effects on the nervous system."

CASSETTE DECKS COMPARED

CHOICE, January 1996

On page 43 we said the **SONY TC-WR565** couldn't be controlled by a same-brand remote control supplied with another component of the hifi system. In fact it can be operated with a remote provided for another Sony component, or you can buy an optional remote control for the cassette deck.

Term deposits

A 0.75% difference between one term deposit and another may not seem a great deal, but if you're investing $5000 in a five-year deposit, it could amount to an extra $250 in your pocket.

WITH SAVINGS OR CASH MANagement accounts the interest rates paid can vary. Term deposits have a fixed rate of interest for the whole time your money is invested (the term). A host of institutions offer term deposits with a variety of interest rates and a range of terms — here we tell you the best rates for six months as well as one, three and five years, and the things to consider before investing.

SHOULD I LOCK MY MONEY AWAY?

Term deposits are designed for investing money you don't need at the moment, and they should be viewed that way. You should have an 'emergency fund' of money you can get at quickly before you think of locking your money away for a fixed term.

The risks are, first, that you may need it back sooner than you thought, and so have hefty penalties to pay (see *Can I get my money back early?*), and second that interest rates may rise, and you could be stuck earning low rates when there are higher rates on offer — see *Taking the plunge*, opposite. The advantage of a term deposit is that you know the amount of interest you'll be earning throughout the term.

For many people (unable to foretell the future) a one-year term offers the required compromise between flexibility, risk and interest paid.

WHEN WILL I BE PAID INTEREST?

You can often choose to have interest paid out to you or added to your investment so the interest earns interest (compounding).

The interest rates quoted in our table are 'effective' or true interest rates. This means they take compounding into account. The effect of compounding is to increase the actual interest rate for accounts which have interest credited more than once a year — for example, if an account has a quoted rate of 8%, but is paid six-monthly, compounding means the effective rate paid to you is 8.16%; if it's paid monthly the effective rate is 8.3%. Our table shows these effective rates, which may be higher than the quoted rates from the institutions.

■ Warning: Some institutions quote interest rates in which interest is added only at the end of the term — for periods over one year this means you'll miss out on the compounding effect completely.

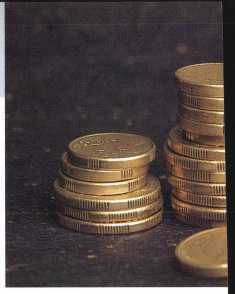
WHAT HAPPENS AT THE END OF THE TERM?

The financial institution should write to you shortly before the end of the term. You'll usually be given the option to reinvest at the current rate or take all your money — if you're reinvesting it's worth checking what's on offer elsewhere at the time.

If you don't respond, or haven't given other instructions, the deposit will be rolled over into a new term deposit with the same term as the previous one, but at current interest rates. If you don't want this to happen and you're worried you might miss the notice, you can give instructions during the term (they're likely to need to be in writing).

CAN I GET MY MONEY BACK EARLY?

In circumstances of hardship institutions will generally consider early repayment. However, there are likely to be penalties — such as a lower interest rate being applied, which (if you've already had interest paid out of the account) can mean getting back a lump sum which is smaller than the original amount you invested.



Some institutions offer term deposits which allow you to make limited withdrawals — though with a lower interest rate than equivalent term deposits without this facility. For example, **ADVANCE BANK Your Call** term deposits were offering 7.1% for a $5000, three-year term, from which you can withdraw up to 30% of the amount invested, and 7.35% for the standard three-year term deposit.

HOW SAFE IS MY MONEY?

Banks must abide by regulations overseen by the Reserve Bank. However, there's no obligation for the Reserve Bank to compensate depositors in the event of a crash — though, in practice, it has arranged rescues in the past.

Some banks do have government guarantees for depositors. The Commonwealth Bank has a Federal Government guarantee until at least May 9, 1999, and term deposits made before this are guaranteed to maturity (they may actually be guaranteed past May 9, 1999, depending on when the government shareholding falls below 50%).

State Bank NSW, now owned by Colonial Mutual, has a similar guarantee from the NSW government till the end of 1997. Pre-privatisation customers of BankWest have a guarantee from the WA government which is to be progressively phased out, though new deposits have no such guarantee. There are also SA government guarantees for some existing depositors with Bank SA.

Individual **building societies** and **credit unions** experienced considerable difficulties in the past — for example, the Pyramid Building Society (Vic) and Teachers Credit Union (WA). In response to these problems a national Financial Institutions Agreement was

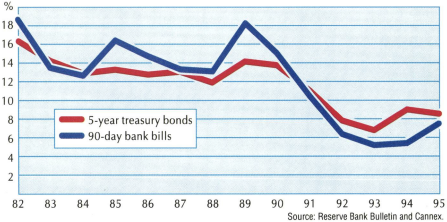
drawn up in 1992. This introduced rules for building societies and credit unions covering, for example, the investments and loans they can make.

Each state and territory has a contingency fund contributed to by credit unions, designed to provide deposit protection. There is no equivalent scheme for building societies, though they and credit unions are members of emergency Liquidity Support schemes, which require 3.5% of union and society assets to be available if needed by another institution which is having temporary problems (but which is otherwise secure).

TAKING THE PLUNGE

The timing of your investment in a term deposit can have a significant effect on its relative success. If interest rates unexpectedly plummet just after you stash your money in a fixed-rate term deposit, you're likely to sit back with a smile on your face congratulating yourself on how clever you've been. On the other hand, if interest rates rise you're very likely to see the gloss taken off the rate you signed up for.

The graph below tracks yearly average 90-day bank bill and five-year treasury bond rates. These rates are 'commercial' rates, and influence the interest rates you get for money you invest with a bank, building society or credit union for a short term and in a five-year term deposit respectively. As you can see, if you'd invested in 1990/91, say, for a five-year treasury bond term, you would have got well above the rates currently on offer, but between 1985 and 1990 you'd have done better with your money on shorter-term deposit.



Source: Reserve Bank Bulletin and Cannex.

TERM DEPOSIT INTEREST RATES

	6-month term	1-year term	3-year term	5-year term
TOP RATES FROM BANKS				
$1000 investment	St George (7%) Town & Country (7%) Metway (6.85%)	Town & Country (7.25%) Bank of Queensland (7.23%) Various at 7%	Bank of Queensland (7.87%) Town & Country (7.75%) St George (7.69%)	Bank of Queensland (8.08%) Metway (7.9%) St George (7.9%)
$5000 investment	Arab Bank Australia (7.5%) Bank of New Zealand (7.15%) State Bank NSW (7.1%)	Arab Bank Australia (7.5%) Trust (7.47%) Various at 7.25%	Bank of Queensland (7.87%) Trust (7.82%) Town & Country (7.75%)	Trust (8.24%) Bank of Queensland (8.08%) Primary Industry (8%)
RATES FROM THE BIG FOUR BANKS				
$1000 investment	NAB (4.5%) Westpac (4.5%) ANZ (4.35%) Commonwealth (4.35%)	NAB (5.8%) Westpac (5.75%) ANZ (5.6%) Commonwealth (5.35%)	NAB (6.3%) Commonwealth (6.09%) ANZ (6%) Westpac (6%)	NAB (7.03%) Westpac (7%) Commonwealth (6.86%) ANZ (6.2%)
$5000 investment	ANZ (6.75%) NAB (6.65%) Commonwealth (6.5%) Westpac (6.5%)	ANZ (7.03%) Commonwealth (6.97%) NAB (6.92%) Westpac (6.9%)	ANZ (7.56%) NAB (7.55%) Commonwealth (7.23%) Westpac (7.1%)	ANZ (7.82%) NAB (7.8%) Commonwealth (7.64%) Westpac (7.5%)
TOP RATES FROM OTHER INSTITUTIONS*				
$5000 investment	Richmond-Tweed Post-Tel, NSW (7.75%) Elcom CU, NSW (7.5%) Energy CU, WA (7.5% *(A)*)	Richmond-Tweed Post-Tel, NSW (8.16%) Cornerstone BS, Vic (7.98%) Various at 7.76%	Mackay Permanent BS, Qld (8.26%) Hume BS, NSW (8.16%) Credit Union Australia, Qld (8% *(A)*)	Island State CU, Tas (8.3%) Savings & Loans CU, SA (8.3%) Various at 8.16%

Information supplied by Cannex and checked with the institutions concerned; correct at January 15, 1996. The interest rates shown are the 'effective' annual rate before tax (see *When will I be paid interest?* on page 6) and may therefore be higher than those quoted by the institution.

CU Credit Union

BS Building Society

(A) Extra 0.25% offered to over-50s.

* Many non-bank financial institutions offer higher interest rates than banks for term deposits (at the time of our survey banks were offering an average rate of 7.45% for a $5000 three-year term, and non-banks an average of 7.6%), but the availability is often limited by location or specific membership requirements. The rates quoted here were the best on offer at the time we checked. If there's a local financial institution in your area, it's worth checking their rates.

Your hospital survival kit

Going into hospital can be quite traumatic — and it can be even more so if you haven't prepared yourself by asking questions and getting clear answers on what you can expect before, during and after your stay.

We look at some of the issues you need to consider before you pack your case and what you can do to make your time in hospital less stressful.

Going into hospital

FEW PEOPLE ENJOY BEING IN HOSPITAL. Some become anxious at the thought of suddenly becoming a passive, powerless, pyjama-clad patient, lying in bed in an unfamiliar environment and being forced to adapt to a rigid hospital routine. You may be concerned not only about your condition and the treatment proposed, but also about your financial situation and how you're going to manage after you're discharged. And in the wake of recent headlines about hospital errors, you may be afraid your hospital stay might make you sicker than you were before.

In 1994 the Consumers' Health Forum conducted nationwide consultations with over 400 people on their experiences of hospital care. Participants felt that the quality of hospital services was deteriorating and pinpointed two key concerns: the lack of consumer information before, during and after their hospital stay and the poor communication skills of health professionals.

Steps are being taken to make more information about hospitals and their services readily available. For example, under recent reforms to the private health insurance industry, health funds are now required to provide their members with more information about their choices, and hospitals that have contracts with health funds are required to tell you in advance how much you will have to pay out of your own pocket for your stay (see *Insurance Reforms* on page 12).

In addition, charters have now been drafted for both public and private patients. It's hoped they will help you un-

derstand your rights better so you can play a more informed role in your own health care. As well, national legislation, enabling private patients (as well as public hospital patients) to gain access to information in their medical records, is at least under consideration.

But ultimately it's you, the consumer, who has to ensure you're given sufficient information. It's important to ask questions about anything you don't understand or are uncertain about.

There are several decisions you need to make before you go into hospital. Would you prefer a private or public hospital? Do you want to be admitted as a public (Medicare) or private patient? Let's look at your options.

WHICH HOSPITAL — PUBLIC OR PRIVATE?

Which hospital you choose will depend to some extent on whether or not you have health insurance and if so, the level of cover you have. But your health condition may also play a part in the decision of whether to go to a private or public hospital.

For example, if you need emergency treatment — say you've had a heart attack or been involved in an accident — you're more likely to go to a public hospital, because that's where most accident and emergency departments are located. The most urgent case will be treated first and you'll be given the same standard of care, regardless of whether you're a public or private patient.

Public hospitals also generally lead the field in complex treatments, such as heart and lung transplants. And if you need specialised treatment or have complications, you may be better off in a large public hospital where there are specialist teams, a range of emergency back-up facilities and medical staff on duty round the clock.

Most smaller private hospitals don't have a resident doctor to call on if there's an emergency at night, but virtually all metropolitan public hospitals have resident medical officers. In rural areas it can be a different story.

However, some of the larger private hospitals do have excellent facilities and medical back-up. And private hospitals in general certainly have some advantages. One of their major drawcards is that you usually don't have to wait long to be admitted.

If you're having 'elective' surgery (for a condition which doesn't require immediate treatment), you may find waiting lists in many public hospitals are quite lengthy for particular procedures and that you'll get faster treatment in a private hospital. Being able to plan ahead and choose the date of your surgery is also a big attraction for many people.

In addition, private hospitals tend to be less crowded and rushed than large public hospitals. The surroundings may be nicer, and the standard of the food, decor and level of comfort may be higher as well.

Bear in mind too that if it's important to you to have a private room, you'll need to choose a private hospital. In a public hospital, private rooms are allocated to those people most in need of one because of their medical condition. Even if you're admitted to a public hospital as a private patient, you can't be guaranteed a private room.

PUBLIC HOSPITALS

Your decision about going into a public or private hospital may well be influenced by how much it will cost you, even if you do have health insurance.

DAY SURGERY

Increasing numbers of people are choosing to have simple operations done in day procedure centres because they're convenient, waiting times are minimal and, because of their size, they can offer a personal and streamlined service.

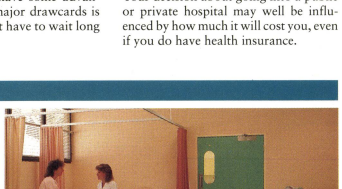
These facilities are recognised by health funds and are inspected by state health authorities to ensure that standards and guidelines are adhered to, so you might prefer to have a minor procedure done in one of these centres instead of in a doctor's surgery.

A wide range of straightforward procedures, such as cataract surgery, diagnostic internal examinations and simple gynaecological operations, can be performed in these clinics.

Independent day procedure centres are privately run, but some public and private hospitals have day surgeries attached.

Before having day surgery:

- Ask your doctor about his/her charges and any other professional services you may receive bills for (such as the anaesthetist's fees and any pathology tests or X-rays you may need). If you choose to be a public patient in a public hospital day surgery, Medicare will cover all costs, including medical services, theatre and medication.
- If you're a private patient, contact your health fund before committing yourself to going into a particular day surgery, to check that it has an arrangement with that centre and with your doctor. Also check whether you will have 100% cover for hospital charges. If your doctor doesn't have an agreement and you would prefer to find one who does (so you won't have to pay so much), your fund should be able to tell you which doctors in your area it does have a contract with.



Day surgery centres: safe and convenient for minor procedures.

- If you don't have private health cover, you may opt to have the procedure done in a public hospital day procedure centre, if one is available; or you may want to pay your own way. Ask the day surgery what they charge (some may offer discount rates). You may also want to check whether the surgery bulk-bills certain groups, such as pensioners.
- Make sure you're fit enough and have sufficient support at home to enable you to be discharged on the same day as your operation. You may be drowsy and nauseous after your anaesthetic and even if you feel OK, you'll need someone to take you home. Bear in mind that day surgeries are not open at night.
- Make sure you're given contact names and phone numbers in case complications develop after you're discharged.

Australia's public hospitals are funded jointly by the Commonwealth and state/territory governments, with a large contribution coming from the 1.5% Medicare levy paid by most taxpayers. They are administered by state/territory health authorities.

If you go into a public hospital as a public (Medicare) patient, you don't have to pay for your accommodation, medical or other treatment costs (such as tests and medications), but you have no choice of doctor.

Even if you have health insurance, you can elect to be admitted to a public hospital as a Medicare patient. You won't be able to choose your specialist but you will be able to avoid paying for anything.

If you prefer to be admitted to a public hospital as a private patient, you will be able to choose your own doctor (provided he or she has visiting rights to that hospital). While you don't have that right as a Medicare patient, you're still entitled to ask for a second opinion.

In a public hospital as a private patient, you'll get exactly the same treatment and services as a Medicare patient. But while a public patient won't have to pay for anything, you'll be charged for accommodation, prostheses (such as an artificial hip or knee), doctors' fees and diagnostic tests. Your accommodation and prostheses may be covered in full by your fund. As far as doctors' fees are concerned, Medicare will pay 75% of the Medicare Benefits Schedule fee (a rate set by the government as being fair for both doctor and patient) and your fund will pay the remaining 25%. If your doctor charges above the Schedule fee, you'll be out of pocket, unless the extra is covered by your health insurance.

PRIVATE HOSPITALS

In a private hospital, you'll not only have to pay for your accommodation, doctors' fees, prostheses and tests, but you'll also be charged for hospital services, such as the use of operating theatres or labour ward, care in intensive care units, dressings and medications. Much or all of this may be covered by your private health insurance (see *Insurance Reforms*).

If you have only basic hospital cover, bear in mind that, although your fund will cover part of your accommodation

CHECKING YOUR CHILD INTO HOSPITAL

Going into hospital can be particularly unsettling for children, especially if it's the first time they've been separated from their family. Knowing what to expect can make the experience less distressing for both you and your child.

If your child needs an operation, find out from your doctor whether it can be done under day surgery.

If your child needs to stay in hospital overnight or longer, ask the hospital:

- Do you give preadmission tours for children?
- Are parents welcome to visit at all times?
- Can parents stay overnight? Are folding beds or other facilities provided? How much does it cost?
- Can you get meals? At what cost?
- Can you stay with your child before and after an operation (until anaesthetised and in the recovery room)?
- May brothers and sisters, however young, visit?
- Are there childcare facilities for brothers and sisters?
- Can children bring their own special toys?
- Will my child be in a cot or a bed? Will he/she be confined to bed in the daytime?
- Does the ward have playworkers and teachers to keep children occupied?
- Is there a ward volunteer who could help care for my child if there are times when I can't be there?

If you think your child would be particularly unhappy in the hospital they're booked into, find out if another one may be more suitable.

If you're not happy with your child's treatment in hospital (say, she's in a ward with adults) and you can't resolve the problem by talking to hospital staff yourself, contact the Association for the Welfare of Child Health (AWCH) on (02) 633 1988 (9 am–5 pm weekdays) and they will investigate the situation. AWCH is a voluntary organisation set up to ensure the emotional needs of children in hospital and their families are met. It has branches in all states and the ACT (but not the NT).

In several Sydney hospitals, AWCH has introduced a hospital grandparent scheme for children whose parents can't visit regularly. A volunteer becomes the child's adopted grandma or grandpa for the duration of their stay in hospital. Hopefully other states will adopt the scheme in the near future.

Pictured here is two-year-old Mariah Swan with Yvonne, her ward granny. Mariah, from Moree, northern NSW, had to spend several months in hospital in Sydney waiting for a kidney transplant. As her parents were unable to be with her all the time, Yvonne was able to supply plenty of cuddles and attention, which made Mariah's stay a lot happier.

expenses, other costs such as theatre fees are not covered. Even if you have top cover, you may still have to pay extra.

If you're not privately insured, you may be prepared to go to a private hospital and pay for your treatment from your own pocket to avoid a long wait for elective surgery in a public hospital. But you should find out first exactly how much it will cost — and be aware that you may find you're facing an unexpectedly large bill if you have to be readmitted for further surgery or if you spend longer in hospital than you bargained for because complications develop.

If you think a private hospital will cost too much (even with private insurance), ask your doctor to suggest a cheaper one or request to be admitted to a public hospital. If he/she isn't happy to do so, seek a second opinion from another doctor.

Your choice of hospital will be narrowed if you want a particular doctor, as you'll have to choose one where he or she has visiting rights. And if you opt for a particular private hospital, check whether your health fund has a contract with that hospital and with your doctor (see *Pre-admission checklist*, below) — otherwise you may be out of pocket.

WAITING LISTS

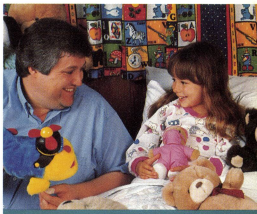
How long you have to wait for admission may also influence which hospital and which doctor you choose.

If you're admitted to a public hospital in an emergency, you'll receive priority attention and won't have to wait for treatment or for an operation. However, if your condition isn't life-threatening, but you need an operation in the near future, you may be put on a waiting list for elective surgery.

Waiting lists and waiting times vary greatly between regions and from hospital to hospital, as well as according to the specialist treatment involved. They're difficult to assess as they are not centralised — and sometimes people may be recorded on more than one list, some patients may not require an operation after all and some may have already had their operation done elsewhere.

If you're put on a waiting list for elective surgery, ask what the expected waiting time is, and if it seems too long, ask whether the waiting list is organised for one particular doctor or for a group of doctors in the hospital — another doctor or another hospital may have a shorter waiting list. Shop around.

Also ask what you should do to manage your condition until elective surgery is available. If your condition gets worse while you're waiting, contact your GP or specialist.



Children's wards need to be bright and lively — check what your child can expect before he or she is admitted.

Pre-admission checklist

Before booking into hospital you need to consider your options. Here are some questions you may want to ask to help you make informed decisions.

Ask your doctor:

- Can you explain my condition and the treatment you propose?
- Is the treatment necessary? If you're having surgery, you may wish to get a second opinion. If you're not convinced surgery is the best option, ask for a referral to a medical specialist rather than a surgeon.
- What are the risks and benefits of treatment?
- What would happen if I don't go ahead with the operation or treatment?
- What are the chances of success?
- What are the alternatives?
- How long is the waiting time?
- How long can I expect to be in hospital?
- What continuing health care might I need on discharge from hospital and will there be any costs associated with this?

If you're a private patient, ask your doctor:

- Do you have a contract with a hospital covered by my health insurance policy?
- Can you give me a written outline of the estimated costs of my treatment? If you're having an operation, you should also find out how much the anaesthetist will charge.
- Will I need any other professional services (X-rays or pathology tests, for example)? How much will they cost?

Ask your hospital:

- Can you send me information covering what I should bring to hospital, pre-op instructions and what I can expect during my stay?

If you're a private patient, also ask:

- Do you have a contract with my health fund and my doctor?
- What do you charge for accommodation and other services I may need (such as operating theatre or labour ward costs)?
- What are the arrangements for paying? Do you require advance payment?

If you're a private patient, ask your health fund:

- Do the hospital and my doctor have a contract with you? (It should give you a list of those that do.)
- Will my health insurance plan cover all my hospital and medical services?
- If not, what out-of-pocket costs will I face?
- Have I met any qualifying period required before I can be covered? If it's relevant, ask if you're covered for treatment for medical conditions existing before you purchased the health insurance.

INSURANCE REFORMS

The number of Australians holding hospital insurance is continuing to decline as premiums continue to rise. Currently only 6.3 million people or 35% of the population have private cover. Whether the recent overhaul of the health insurance industry attracts people back to private insurance remains to be seen. At least the reforms have the potential to make the health funds more competitive and flexible and to give consumers more choice and better value for money.

■ The health funds are now expected to provide better information about their various products to help you make comparisons more easily.

■ Since October 1, 1995, funds have been able to offer members 100% cover for hospital and medical costs by striking special deals with hospitals and doctors for their members.

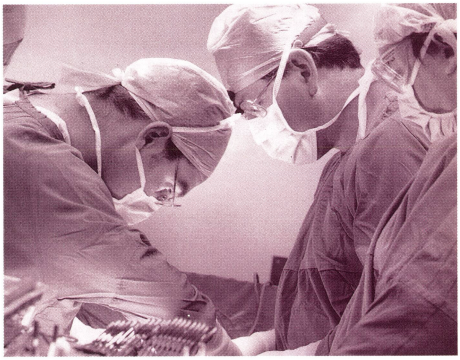
■ Your fund may cover doctors' fees in hospital in excess of the Schedule fee, provided it has a contract with your doctor and you have an adequate level of cover.

If your doctor doesn't have a contract with your fund, you can still claim 75% of the Schedule fee from Medicare and the remaining 25% from your fund. And if the hospital you choose doesn't have a contract with your fund, you will still be paid a benefit, but a lesser amount (it will be set at least at the level of the current basic table benefit).

■ If your treatment is covered by an agreement between your health fund and the hospital, your hospital will be required to inform you in advance what all your hospital expenses are likely to be, so you've no unexpected out-of-pocket expenses. And you should in future receive only one bill to cover hospital services instead of separate ones for your accommodation, theatre fees and so on.

To get information about costs as quickly as possible to help you decide on which option to choose, it's wise to contact your hospital and your fund yourself. (Ask for the quote to be put in writing.) Your doctors may still want to send you separate bills, so you also need to check out your situation with them.

The reforms also include a charter of rights for private patients and the appointment of a complaints commissioner to handle private health insurance complaints. If you have an insurance complaint, first talk to your fund and, if that doesn't resolve the matter, take it up with the complaints commissioner, who can be contacted on 1800 640 695.



Surviving hospital

YOU MAY HAVE HAD SECOND THOUGHTS about going into hospital if you've heard about the results of the Australian Hospital Care Study. It estimated that 18,000 of the 2.8 million people admitted to Australian hospitals in 1992 died as a result of their health care, while about 50,000 patients were left with some degree of permanent disability.

The researchers, from the University of Adelaide, the Royal North Shore Hospital in Sydney and the University of Newcastle, examined the medical records of over 14,000 patients attending 28 public and private hospitals in NSW and SA and extrapolated their findings to achieve nationwide figures. About 16% of patients had suffered temporary or permanent disability, a prolonged length of stay or death caused by health care management and not their disease. About half of these 'adverse events' were judged to be preventable.

According to the study authors, half of all unintended injuries were associated with an operation, 15% were due to problems such as misplaced test results, inadequate supervision or a lack of communication, 13% were diagnostic errors and 2% were related to anaesthesia. The risk of death or disability was similar for public and private patients.

Professor Bill Runciman, head of anaesthetics and intensive care at the Royal Adelaide Hospital and one of the study authors, says there is no need for people to reject hospital care on the basis of this study. "The figures don't take account of the benefits of hospital care," he says. Most patients do get better through being in hospital.

In his view the study included many frail and elderly people who were likely to die with or without treatment. Those at greatest risk of complications are people older than 60.

"You don't need to be frightened before going into hospital," says Professor Runciman. "Hospitals are just as good as they used to be — but you do need to be aware that any medical intervention involves risks, which you need to weigh up. Many of the patients involved in this study had complex, high-tech procedures — some did have complications, but some would have died had they not had surgery."

Nevertheless, Professor Runciman acknowledges that action is needed to ensure the number of preventable mistakes is reduced. A task force has been established to look at strategies to improve the quality of patient care.

MINIMISING THE RISKS

Meanwhile, you don't need to panic about the prospect of going into hospital. Most patients have no complications from treatment. But you may sometimes be able to prevent mistakes if you become an active participant in your health care. Being prepared, knowing what to expect in hospital by seeking out information, communicating your concerns to hospital staff and your doctors and insisting on being involved in treatment decisions can make you feel more in control and may aid your recovery. Here are some hospital survival tips.

- Only undergo surgery if it's really necessary. Ask how much experience your surgeon has in performing the procedure you'll be having.
- Keep yourself informed. Ask questions about the risks and benefits of any proposed treatment and any alternatives. If you're having tests, ask what they're for, and don't forget also to ask for the results (and for an explanation of what they mean).
- Be assertive. Don't be afraid to ask for what you want — but do so nicely. You'll get more help from hospital staff if your approach is friendly.
- Be aware of what medications have been ordered for you, and what the nurse is giving you.
- Try to resolve complaints quickly. First speak to the person involved, and if that doesn't help, talk to the sister in charge. You may also wish to raise the matter with your doctor. If that doesn't resolve the problem either, you or your relatives can ask the director of nursing or chief executive officer of the hospital to help. Some hospitals also have patient representatives who may be able to assist you. If you're still not satisfied, contact your state complaints unit (see *Patient power*, CHOICE, August 1995, for phone numbers).

GOING HOME

Hospitals are no longer places you go to recuperate in until you're 'better'. Now their purpose is to provide care for people who are acutely ill.

Changes in the hospital system are accelerating the trend to discharge patients earlier. Victoria and more recently South Australia have introduced a new method of hospital funding called casemix, and other states are expected to follow suit in the near future.

CASEMIX

Under the casemix system, the state government pays hospitals fixed prices for each patient according to their diagnosis. If the hospital is able to treat the

POOR COMMUNICATION — PAINFUL DEATH

Beth Roe is angry that lack of communication and inaction by doctors and hospital staff meant that her mother suffered unnecessarily and died in pain.

Seventy-five-year-old Mary was first admitted to hospital at Beth's insistence: she was very weak, unable to eat and in considerable pain because of stomach cancer. She was advised to have a blood transfusion, but Mary would only consent to receiving blood donated by a family member. Beth checked with the Red Cross Blood Bank that this was possible. The doctor, however, refused to discuss the matter. It could not be done, he said, so Mary received no blood.

"We were never given the opportunity to ask questions about my mother's treatment, and there were no explanations given," says Beth.

Mary was referred to a cancer specialist — but she was told he would not come to her hospital bedside: she would have to visit him in the outpatients' clinic of a larger hospital, some 20 km away. No hospital transportation was provided for Mary, who was unable to walk unaided. Her husband Robert had to drive her and arrange for a wheelchair.

She was in considerable pain during the two hours she sat waiting to see the doctor. During the consultation, the specialist said he would talk to her GP about ordering stronger analgesia. But until the day she died, Mary was prescribed nothing stronger than Panadeine tablets.

Mary was asked if she wanted to go home. Not surprisingly she said she did. However, there had been no visit by an Aged Care Assessment Team prior to Mary's discharge, nor had any support arrangements been made.

Within a few hours of arriving home, Robert had fallen on top of his wife while attempting to help her to the toilet. He had strained his back and had to ring paramedics to lift Mary off the floor.

In the following days, both Mary and Robert had further falls, so Beth contacted their local Aged Care Assessment Team for help. A visiting community nurse arranged for Mary to be readmitted to hospital immediately.

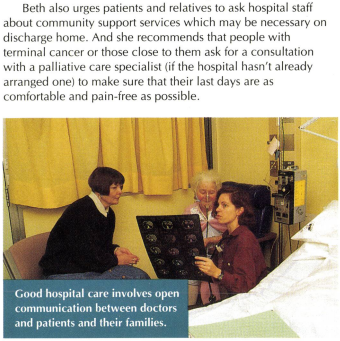
In hospital, Mary was writhing in pain, but the nurses said they couldn't give her anything stronger than two Panadeine tablets without her doctor's authorisation. By the time he arrived almost fours hours later, Mary was in a coma and near death.

"Why did she have to suffer like that?" asks Beth.

Beth has written to the NSW Health Care Complaints Commission about her mother's treatment and expects the matter will be investigated soon.

"The doctor should have a consultation with the patient and their family so there's open and honest communication about the treatment and what they can expect," says Beth. And carers, she adds, should be involved in making a realistic assessment of whether a person can be cared for adequately at home, particularly if their condition has deteriorated during their stay in hospital.

Beth also urges patients and relatives to ask hospital staff about community support services which may be necessary on discharge home. And she recommends that people with terminal cancer or those close to them ask for a consultation with a palliative care specialist (if the hospital hasn't already arranged one) to make sure that their last days are as comfortable and pain-free as possible.



Good hospital care involves open communication between doctors and patients and their families.

patient for less, it makes a profit; if it treats the patient for more, it makes a loss. The more patients a hospital treats, the more funding it receives, so there is an incentive to admit more patients and get them home as quickly as possible.

The system has reportedly increased hospital efficiency and cut waiting lists in Victoria since it was introduced there in 1993. But critics maintain it has many potential problems — for example, it could result in hospitals refusing to admit patients who have a chronic illness or a condition that is difficult to categorise and who need a lengthy stay in hospital. It may also mean increasing numbers of patients are being discharged prematurely, with little or no planning or community support arrangements.

COPING WITH GOING HOME

Early discharge isn't in itself a bad thing. On the plus side, it means you've less risk of acquiring a hospital infection, it can increase your independence and enable you to recuperate in a familiar environment. But your discharge needs to be planned and co-ordinated — and judging by complaints from past patients voiced during Consumers' Health Forum (CHF) casemix consultations, that's often not happening.

CHF executive director Kate Moore cites the case of a woman with terminal cancer being discharged to the sole care of her 14-year-old daughter. As another example, a frail 92-year-old woman with diabetes — and with no family to care for her — was discharged from hospital after an arm operation and left to look after herself. She had to make her own arrangements for a taxi to take her home and for Meals on Wheels.

Hospitals should offer information about what you can expect when you go home and they should be able to organise help after discharge if you need it. There should be a team approach to discharge planning which involves patients, hospital staff, doctors, community service representatives, family members and carers. But if advice isn't readily given, you or your family will have to be assertive and ask for it. Here are some questions you might ask:

- When am I due to go home?
- What medications will I need to take and when? (Ask for this information to be written down.)
- When do I need to see my doctor?
- Who should I contact if complications develop?
- What can I expect after discharge? — for example, how much will I be able to do for myself? Will I need visits from community nurses, or physiotherapy, home help or Meals on Wheels?
- Can the hospital make arrangements for this care? How much is it likely to cost?
- Do I need any special equipment (such as a walking frame or bath seat)? How can I obtain it and how much will it cost?
- If you are frail and elderly, you or your carer should ask whether a pre-discharge review by an Aged Care Assessment Team (ACAT) is necessary (to determine what sort of help may be needed at home and whether you should be considering moving into a hostel or nursing home — see *Right at home*, CHOICE, January 1995).

WHERE TO GET HELP

If you discover you need help after you've left hospital, contact your doctor or your local community health centre. Usually staffed by health workers such as community nurses, social workers, psychologists and physiotherapists, community health centres run a variety of health services and are also a good source of information about self-help and support groups for people with particular conditions (such as arthritis, stroke and mental illness) and other services (such as Aged Care Assessment Teams) in your area. They're listed in the White Pages phone book under community health centres.

In your White Pages you can also find contact numbers for the government-funded Home and Community Care program, which aims to help people with disabilities and frail, older people live in the community as independently as possible (see *Right at home*, CHOICE, January 1995, for more details).

Or try your local council: it may have information about home support services such as Meals on Wheels, community transport and home modification schemes.

IN HOSPITAL AT HOME

Selected Victorian patients who don't need 24-hour hospital care are now being 'admitted' to hospital in the comfort of their own home.

Treatment at home is a new idea for some types of illness.

Jane Johnson (pictured here with her daughter Ashlee) is one of them. She's in the middle of a six-month course of chemotherapy to fight her breast cancer. Thanks to the state government's new Hospital in the Home program operating at Box Hill Hospital, she doesn't have to go into hospital to receive intravenous infusions, but is treated by district nurses at home.

"I feel much more relaxed being at home," she says. "I don't have to worry about getting people to mind my children. And I'm not constantly reminded of my illness, as I would be if I was in hospital."

The scheme is allowing selected patients to shorten their hospital stay or avoid hospital altogether. Suitable patients might be receiving chemotherapy, intravenous antibiotics or wound care, or they may simply need traction after joint surgery. The hospital to which they are 'admitted' as a Hospital in the Home patient may need to purchase non-hospital services to help them cope at home, such as district nurses and home help.

At present, the Victorian program is available only through 19 metropolitan and 17 rural hospitals. Other states are introducing similar schemes.

If your doctor's bill makes you ill

Doctors should give you information about their fees up-front so you can agree to them before treatment. If they don't tell you, ask!

In a landmark court case in SA in 1994, a magistrate ruled that a consumer did not have to pay the difference between the Medicare Schedule fee and the fee charged by an anaesthetist because he had received no information about the fee before treatment. In most cases, however, legal action can be avoided through better communication and negotiation.

If your bill is unexpectedly high, the Consumers' Health Forum advises you to:

- Check you didn't agree to the bill before treatment. If you were told about the charges in advance and didn't question them at the time, you may have implicitly agreed to pay the fee.
- Find out what the Schedule fee is for the procedure by contacting your local Medicare office. You will need to know the Medicare item number, which should be listed on your bill.
- Immediately send the doctor a cheque equal to the Schedule fee, together with an explanatory letter. Ask whether there has been an error in the account, as it seems to be high in relation to the Schedule fee, and ask the reason for the high fee. Was some other procedure performed that was not stated on your bill?
- If the doctor pursues the original account it may be appropriate to try to negotiate a figure above the Schedule fee but below the fee charged. In negotiating this new fee your personal circumstances and the doctor's failure to alert you to the apparently excessive fee can be raised.
- If there were circumstances which made it impossible for the doctor to seek your agreement to his or her fees (emergency treatment, for example), you may also need to negotiate a higher fee.

A SATISFIED CUSTOMER

Being fully informed of what to expect and good communication with doctors, nurses and other hospital staff can, as Ron discovered, make a hospital stay less unnerving and more comfortable.

His specialist recommended surgery on Ron's right knee (a total knee replacement), but he took time to explain the risks as well as the benefits of the operation and exactly what it would involve.

The surgeon explained that he operated in both public and private hospitals. Ron opted for the public hospital, which was close to his home and convenient for his wife and other visitors. Besides, with his history of heart problems, he felt more secure having complex surgery done in a public hospital with resident doctors on hand 24 hours a day.

Because he also wanted to be sure his own specialist would operate on him and he has top cover insurance, Ron chose to be admitted as a private patient. His specialist told him exactly how much he could expect to pay out of his own pocket for surgical, anaesthetic, pathology and other expenses. (In hospital Ron learned that the other three patients in his room happened to have been operated on by the same specialist. As public patients, they had not been able to choose him themselves — but all their bills were covered by Medicare.)

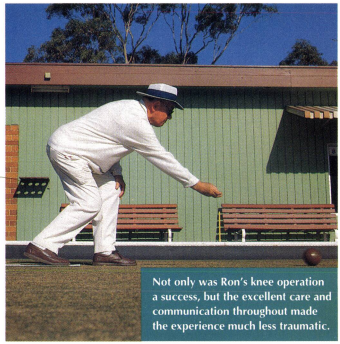
Before being admitted to hospital, Ron was shown a video and given a booklet detailing exactly what his upcoming operation involved; what tests he would undergo beforehand; what he should do (and not do) before and after surgery; what he could expect afterwards; what he should bring with him; and the phone number of a nurse at the hospital he could consult should he have any questions.

The booklet also noted that after discharge the hospital social worker could arrange Meals on Wheels, home care or visits from the community nurse if required, while an occupational therapist could organise equipment for use at home, such as a raised toilet seat or shower chair.

"Every step of the way there was an explanation of what would happen — by doctors, nurses and other staff," says Ron. "I never felt I was being left in the dark about anything."

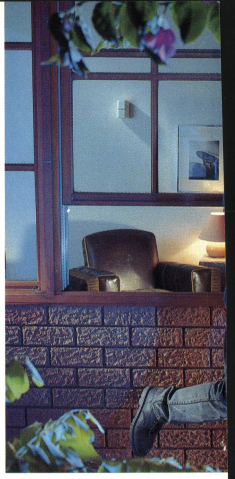
Being able to regulate his own analgesia for the first couple of days after the operation when pain was most acute also helped Ron feel more in control. Instead of having to ask nurses for a painkilling injection, he was able to simply press a button which would increase or decrease the rate of his intravenous morphine infusion as he felt necessary.

Now back at work, Ron says, "Everyone made my hospital stay as pleasant as possible ... I've got a new knee now that is working well and I don't have the pain I used to ... it was certainly worthwhile having the operation." And, as you can see from the photo below, he's even back at his favourite Marrickville Bowling Club.



Not only was Ron's knee operation a success, but the excellent care and communication throughout made the experience much less traumatic.

Securing your home



These days home security is big business and getting bigger. In this article we help you evaluate your risk of being burgled and advise how to reduce it, and look at the main security products and services available.

THE AUSTRALIAN BUREAU OF Statistics estimated that 6.8% of Australian households (about one in 15 homes) were the victim of an actual or attempted break-in over a recent 12-month period. But not all homes are equally vulnerable. If you're considering improving your home's security against property crime, there are two main things to consider — your risk of burglary, and how best to meet that risk.

The security measures you can take for your home range from simple precautions such as locks to the installation of a complex burglar alarm system.

STARTING WITH THE BASICS

Most thieves force a window (42% of burglaries) or a door (36%). So no matter where you live, it's imperative to fit keyed window locks to all accessible windows (bars, a security grille or shutters may be even better than a lock) and deadlocks to all external doors. They may not stop a determined thief, but they might slow down an opportunist burglar enough to send them elsewhere.

For information on the best locks for your type of window, see our test report on page 23 of this issue, and for more on door locks see *Door security* on page 18.

In a world of rapid technological change, the methods used by burglars to break into homes are still pretty basic. But if the art of burglary hasn't changed much, neither has the neglect of householders. In nearly one in eight of home burglaries the thief entered through an *open* door or window — so window or door locks would have made little difference.

Where people had alarm systems installed, in many cases they failed to activate them. Common sense and vigilance are essential but often underemphasised ingredients of effective home security.

But security doesn't stop at the front door. Because of the outdoor lifestyle enjoyed by Australians, many valuable items will be outside your home. Things like power tools, lawnmowers, edge trimmers, pushbikes and other goods kept in garden sheds, garages and the backyard can provide rich pickings for thieves if you're not careful. Also, thieves often break into a garage or shed to find tools or a ladder with which to break into your house.

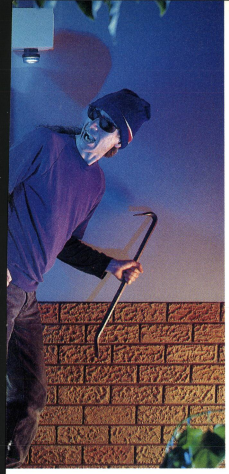
People tend not to consider security for their garage or shed. As with houses, the most common entry point is through doors and windows. If you store anything of value in your shed or garage, it's a good idea to install security and, as with your home, make sure you use it!

REDUCING THE RISK

Where you live, the street location and the type of your home affect your risk of being burgled. In *How attractive is your home to burglars?* on page 18, we highlight the main elements of a home's security risk. Some of these things are beyond your control — but there are a number of practical prevention strategies you can put in place to reduce your exposure to property crime.

■ **Reduce opportunities:** Statistics show that most burglars aren't hardened professionals — they're usually casual opportunists who are looking for a target that offers a quick reward. They're often tempted by attractions like an open window or an obviously unoccupied house. Try to keep valuable items inside the house out of view, and be careful not to leave potential burglars' aids like ladders or tools lying around the garden.

■ **Reduce access and improve visibility:** Would a burglar have a clear view of your home and be able to approach it without the likelihood of being seen by neighbours or passers-by? Homes most



easily accessed by thieves are those on busy roads, on or near corners, and homes with rear access or adjacent to parkland or other open spaces.

Houses not clearly visible from the street because of foliage, walls or other cover are also vulnerable. For this reason, you should trim any bushes or trees that hide doors or windows.

■ **Make your home appear occupied:** If you're out of the house for short periods, make it look as if someone is home by leaving a light and the television or radio on. It's especially important to make your house look occupied if you're away for an extended period of time. Ask your neighbours to bring in your mail and newspaper deliveries, or stop delivery while you're away. If you have shutters, blinds or curtains on the windows, try to arrange for a neighbour to open and close them each day. Timers can be installed to turn lights or appliances like the TV and radio on and off to create the illusion that someone's home.

■ **Neighbours:** The closeness of neighbouring buildings will affect the chances of burglary, especially if they're occupied at times when you're not likely to be home. Neighbours know better than passers-by who is a stranger to an area, and are probably more likely to do something about it. Programs like Neighbourhood Watch can also affect a prospective burglar's perception of the risk of trying to break into your house.

■ **Alarm systems:** Studies have shown that the presence of an alarm system can have an important deterrent effect — see *Home alarm systems* on page 20 for more information on what's available.

■ **Safes:** Many thieves enter a house without tools, so a safe can be a very effective way to secure cash and valuables like jewellery. There are different types of safe: for example, fire safes, wallsafes and floorsafes. Fire safes are designed primarily to resist heat, and so might not be able to withstand forced intrusion.

At the time of writing there was no Australian Standard for safes, so it can be hard to be sure you're getting a quality product — a good safe should cost you between $300 and $750, and should be bolted to a floor or wall. If you have an alarm system, make sure the safe is covered by a sensor.

■ **Record and mark your property:** Engraving or otherwise marking valuable items with your name and driving licence number can deter thieves from stealing them because they're harder to dispose of. It also makes them easy to identify and return to you if they're recovered by the police. Also keep a record of the serial and model numbers of all valuable equipment, and take photos of jewellery, antiques or art to prove ownership.

■ **Sensor lights:** These are outside lights activated by movement. Position them so they illuminate the outside walls as well as all external doors.

■ **Dogs:** Although you can't rely on the presence of a dog to prevent a break-in, studies have shown that a dog can significantly deter burglars (even a 'beware of the dog' sign can help, irrespective of whether you have a dog).

■ **Once bitten...** If you are burgled, you're at a greatly increased risk of being burgled again soon — one in four burgled homes in Australia is struck again within a year. The thieves already know how to get in, and may return for things they couldn't take the first time, or wait for you to replace the items originally stolen. So if you're in this position, consider upgrading your home security *immediately*.

WHAT THIEVES WANT

These are the top items reported stolen by NRMA home contents policyholders across Australia (the order varies slightly from state to state):

- Jewellery.
- Video recorders/cameras.
- Cash.
- Stereos and CD players.
- Watches.
- Tapes, CDs and videos.
- Televisions.

INSURING AGAINST THEFT

Riding on the back of home burglary is Australia's home and contents insurance industry. The burglary rate is the most significant force driving the cost of insurance. Because levels of theft vary from suburb to suburb, the premiums you pay depend partly on where you live. In fact, householders in high-risk areas can pay three times as much for premiums as people in low-risk areas.

But individual home security arrangements can also affect your insurance costs. Many insurers give discounts on home and contents insurance premiums for having certain security devices — though it varies dramatically between insurers. In fact, if you live in a high crime area, some insurers require a certain level of home security before they will insure you at all.

To obtain a discount, insurers usually require some combination of door deadlocks, window locks (or grilles or bars on windows) and/or an alarm system (some insurers give an additional discount if the alarm is monitored). If you're older (for example, over 50 or 55) many insurers will give you an additional discount. Some insurers also give a discount for belonging to Neighbourhood Watch.

Neighbourhood Watch can be an effective deterrent, but it's no substitute for basic home security measures.

How attractive is your home to burglars?

Several factors contribute to making your home an easier or harder target for thieves. If you know whether you're in a high-risk or low-risk situation it will help you decide on the level of security you need — from good door and window locks to a full-on alarm system with a monitoring service.

■ Your insurance company will be able to tell you whether the area you live in is considered high or low-risk — it will have crime statistics in order to work out the premium it charges you. Ask if it has any publications available that give advice on making your home less vulnerable.

■ Community involvement in mutual protection has been effective at reducing crime in some areas. Talk to your local police and Neighbourhood Watch (if there is one) about any security measures that are in place in your area and how you can join in.

■ Check *What thieves want* on page 17. Do many of your possessions fall into these categories? Make life harder for thieves by marking and keeping records of your property — see page 17 for details.

■ Your home is particularly attractive to opportunist burglars if it:
— Is hard to see from the street (there's a high fence or bushes, or it's on a battleaxe block).

Don't make the mistake of thinking any screen door offers good security — see *Door security* below.

— Looks unoccupied, or you go in and out to a regular schedule. Try and vary the times you come and go so a burglar can't feel confident of being undisturbed.
— Is next to open spaces such as parkland, or close to business premises or a school.
— Has a lane at the side or back.
— Is a unit on the ground floor.

■ If you've been burgled recently you're a high-risk target — see *Once bitten* on page 17 for details.

■ An unlocked door or window is an open invitation: lock up even if you're only nipping out to the local shops for a few minutes.

A number of pamphlets are available to help you assess your risk and prevent burglary, such as:

■ *Burglary prevention*, Australian Institute of Criminology, GPO Box 2944, Canberra 2601.

■ *Protecting your home and neighbourhood*, Australian Government Justice Statement, Justice Information, Attorney General's Department, Barton 2600.

For more information about developing a safer community, contact the **Safer Australia Board**, Locked Bag 23, Queen Victoria Terrace, Parkes 2600.

DOOR SECURITY

Doors and windows are the most vulnerable areas of your home and should be the first line of defence against theft. We tested double-cylinder door deadlocks (including deadbolts and deadlatches) in CHOICE in December 1994 — see below for the Best Buys.

Just as important as the type of lock you fit is the material from which the door and door frame are made. Exterior doors should be strong, solid and at least 3.5 cm thick (preferably even thicker), have strong hinges and a high-quality jamb made from hardwood or steel. If you're not convinced of the strength of your door frame, you can buy a reinforcing system for the jamb.

If you have patio doors, make sure they have a lock and have been fitted with devices to prevent the doors being lifted off their runners and removed from the door frame.

Fit the front door with a strong door chain and/or peephole to allow you to view a caller before the door is fully opened. A door letterbox should be positioned at least 40 cm away from the door locks.

Outward-opening doors may have hinges on the outside, so to prevent a burglar simply unscrewing them or taking out the pins and lifting the door off, you can fit pins into the door frame on the hinged side. When the door is closed, the pins slide into holes in the edge of the door, keeping it secure.

Given Australia's warm climate, security screen doors are a popular choice. Many people with a solid-looking flyscreen door with a single lock call it a security screen door. In fact, a security screen door made to the Australian Standard must have a three-point lock and a minimum of three hinges.

BEST BUY GUIDE

The locks below were the best we found in our December 1994 test. Other good ones may have come onto the market since then, but these three withstood our tester's onslaughts significantly better than the others we tested at the time.

LOCKWOOD 355SCAO Deadlock _____ $100
LOCKWOOD 007 Deadbolt _____ $120
LOCKWOOD 001CPAO Automatic Deadlatch _____ $80

Around the house

1. Keep hedges and bushes trimmed and keep them well clear of doors and windows, so they don't provide cover for thieves. In particular, avoid having a high fence or tall trees and bushes at the front of your home.

2. If you go away on holiday, take steps to make the house still appear occupied.

3. All external doors should be lockable — with a deadlock on the front door at least. If you have rear access, put one on the back door too.

4. All easily accessible windows should have locks, bars or a grille.

5. Make sure you secure your garage or shed.

6. Movement sensor lighting can be installed to light up entrances and outside walls.

7. An alarm system — prominently displayed — can be an effective deterrent.

8. Don't leave things like bikes or lawnmowers lying unattended on your property.

9. If you like dogs, they're said to have a deterrent effect on prospective thieves.

10. Try not to leave valuables inside where they're easily seen from outside your home.

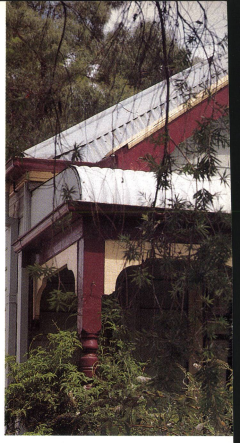
HOME SECURITY AND SAFETY

Some household security measures can hinder easy escape from a dangerous situation. The obvious offenders are deadlocks, keyed window locks, grilles and bars — in the event of a fire there's very little time to look for keys. Fire authorities strongly recommend installing smoke detectors, available for around $10 each, which should give you a little more time to get out.

For door deadlocks, in case of fire you should either keep the key in the deadlock (on the inside, obviously) or not lock it at all while you're at home.

Similarly, for locked or barred windows ensure there are escape routes in case of fire (and if you can't unlock your bars there must be another way out in that direction). Either keep windows unlocked while you're at home, or keep the keys where they're easy to find (though not visible from the outside), and make sure everyone in the house knows where they are.

Home alarm systems



Evidence indicates that having an alarm system is an effective deterrent against thieves. And the NRMA has found that homes fitted with security alarms tend not to suffer big losses if they're burgled.

AN ALARM SYSTEM SHOULD BE installed and tailored to your situation by a security expert. The installer should properly survey your home to work out what system is appropriate. Alarm sensors should cover areas of the house where valuables are kept (the living room or lounge room, and any other relevant rooms), hallways and obvious entry points to the house.

The Australian Standard for alarm systems (AS 2201) covers equipment, installation and service, but not the sale of the system. Check that any alarm proposed for your home conforms to this standard. In addition, ask your installer to show you their licence to install alarm systems — it's not mandatory to have one, but it's a good sign.

What should you look for in an alarm system? The following is a guide.

CHOOSING AN ALARM COMPANY

Any reputable security company will give you a free, no-obligation survey and quote — get at least three. Also check that the company you like has been in business for a number of years.

The Australian Security Industry Association Limited (ASIAL) requires its members to follow a code of practice, so look out for installers who belong to it. The Association has a referral service in each state and territory — see *Home security hints* on page 22 for details of how to contact it.

TYPES OF SECURITY

What do you want to protect with your alarm system — just your property, or your personal safety as well? There are three main types of alarm, which can be installed separately or in combination:

- **Intruder alarm:** The alarm is activated when sensors placed around the house detect an intrusion.
- **Duress alarm:** A button is activated by the householder in a situation of danger — the security monitoring service calls the police immediately.
- **Medical alarm:** A button is activated by the householder if there's a medical emergency — the security monitoring service calls an ambulance immediately.

WIRELESS OR WIRED?

Wireless alarms use a radio signal to link the sensors with the control panel on your alarm. Although they're more expensive, wireless alarms are easy to install, and save having to renovate in order to install wired systems in older houses.

Another advantage of wireless systems is that they're portable — you can simply take the sensors off the walls and have them installed in your new home.

Wired alarm systems are a cost-effective solution if you're renovating or building your home when the alarm is installed.

MONITORED OR UNMONITORED?

Your alarm system may be a siren only, or in addition you can pay the security company to monitor your home from a central monitoring station.

The advantage of a monitored alarm system is that there's a guaranteed response by the security company if the alarm is activated. The response can include telephoning a nominated person, sending a security guard to your home to inspect and report on the disturbance, or calling the police. The standard cost for a 24-hour monitoring service is $1 per day, probably plus a call-out charge for a security patrol.

Whether you should go for a monitored or unmonitored system depends on the security risk of your home (see *How attractive is your home to burglars?* on page 18), insurance considerations (see *Insuring against theft* on page 17), and how much you're prepared to spend.

BEWARE THE HARD SELL

Home security is big business, and some security companies market their products aggressively.

- Some companies gain entry to your home with the promise of marking your valuables with an ultraviolet marker or giving you a personal attack alarm. They don't make it clear till they're inside that they're really selling alarm systems.
- Check how the alarm is to be monitored. With one system we've heard of, the monitoring is done by you and your neighbours! Is it fair to make your home's security your neighbour's responsibility?
- There's a standard 'cooling-off' period in each state that gives you time to change your mind between signing the contract and the system being installed. Don't let the company walk in to do the installation while you're still bedazzled by their sales pitch — think over your requirements again and check you're going to get what you need for what seems to be a fair price. You might want to get some alternative quotes during the cooling-off period.
- As well as causing irritation, false alarms remove some of the urgency to respond. Ask for contact details of other people who have had the same system installed and check with them whether there were frequent false alarms and how the company dealt with the problem.
- Make sure you're aware of and understand any ongoing costs (such as for maintenance, monitoring, etc) as well as knowing the full initial cost of installation.
- For monitored alarms, ask for a clear statement about response times. If possible, check with other owners whether the company lives up to its claims.
- Check that the proposed alarm conforms to the Australian Standard and that the installer is licensed.

MONITORING

The most basic monitoring involves the security company checking on signals sent by the control panel in your home, and taking action in accordance with your instructions if there's an intrusion.

There are three main types of communication between your alarm and the central monitoring station, which increase in price with greater sophistication:

- **Dialler line:** When the alarm is activated, the control panel 'dials' the monitoring station through the telephone line. It provides the lowest level of security, because the monitoring station can't be contacted if the phone line is cut.
- **Securite line:** In addition to a dialler capacity, the control panel automatically contacts the monitoring station every 30 minutes — security is alerted if the signal isn't received.
- **Direct line:** In addition to a dialler capacity, a continuous signal is sent by the control panel to the monitoring station — so security is alerted immediately if the phone line is cut. It provides the highest level of security.

SENSORS

The combination of sensors built into your security design should be tailored to the requirements of your home, the level of security you want, and your budget. They include the following:

- **Passive infra-red (PIR) detectors** are used to monitor an area of space inside a house — for example, a passageway or room. The sensor activates the alarm if heat and movement are detected within the sensor's field of 'view'. Other types include microwave and ultrasonic detectors.
- **Magnetic reed switches** protect the perimeter of your house. Reed switches are attached to doors and windows — if they're opened, contact is broken and the alarm is set off.
- **Glass-break detectors** activate the alarm system when they sense the vibrations of breaking glass.
- **Pressure pads** are placed under carpet or mats, and detect the weight of intruders.

SIRENS

- **External sirens:** There are two types — mains-powered and battery-powered. The latter can't be silenced by cutting off the main power supply.
- **Internal sirens:** It's a good idea to have internal sirens installed as well. The extreme noise generated by one (about 115 dB at one metre) makes it difficult for thieves to communicate, confuses them, and hopefully gets them out of the house without taking anything.

WARRANTY

You should expect at least a 12-month warranty on alarm equipment. However, the warranty may only cover false alarms which are caused by faulty installation or defective equipment. We've seen at least one contract which says the device is a deterrent only, and the householder agrees that the company is not liable for any losses due to failure of the product to operate. So check the details before you sign the contract.

You also don't get your money back if thieves break in and steal your property *despite* the alarm system!

MAINTENANCE

Most companies offer a maintenance service contract to ensure your system stays in proper working order. It can take the form of a regular reminder or a contract (which can be part of the installation/monitoring agreement).

There are two basic types of maintenance contract: preventive (only maintenance of the control panel and battery is covered — any other maintenance work required is charged for separately), and comprehensive. Unfortunately maintenance contracts are often wordy and complex, so make sure you know you're getting.

It's particularly important to have wireless systems properly maintained to ensure the batteries in each of the sensors are charged. If batteries run low, many systems let you know by giving a low-battery indication, and on some systems the alarm is triggered.

PAYING UP — RENTING vs BUYING

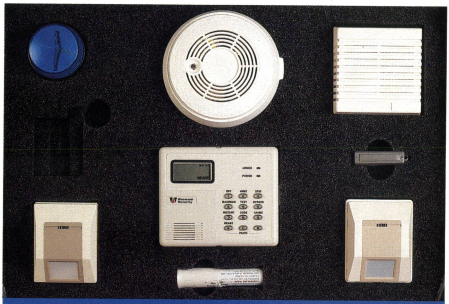
There are two ways to have a monitored alarm system in your home — buying or renting/leasing.

Buying an alarm system involves paying a lump sum, plus a fee for monitoring and/or maintenance of the system.

A rental or lease arrangement is a way of paying for a monitored alarm system over a period of time, usually around five years. The rent covers the cost of the alarm hardware, plus monitoring and sometimes maintenance. Although you don't pay interest, the danger is that you could be committed for a number of years — so if you're thinking of renting, check the terms and conditions with particular care.

TESTING

Test your alarm regularly — this may be a requirement of your contract with the security company.



Various components of an alarm system which would be installed at appropriate points around your home. You might have movement sensors in hallways, living rooms and bedrooms, and an internal siren to disorientate burglars, as well as some form of monitoring system with the security company.

Home security hints

■ Try not to keep valuable jewellery unsecured in the main bedroom — it's the first place thieves look. Other bedrooms or the laundry are less risky (not the kitchen, however) — but the safest hiding place is a good safe.

■ If you're burgled or if someone attempts to rob your home, notify the police and your insurance company immediately. Some insurers have an emergency after-hours contact number. While three-quarters of all completed break and enters are reported to the police, less than 40% of attempted ones are. By reporting all suspicious incidents to the police, you'll help ensure that appropriate police resources are devoted to your area.

■ Neighbourhood Watch can be an effective deterrent against burglary, but it can also encourage complacency. Just because you're participating in a Neighbourhood Watch scheme doesn't mean you can neglect your home security.

■ The Australian Security Industry Association Ltd (ASIAL) provides brochures, general information on security, and referrals to security companies that are members of ASIAL (it will give you the names of three local companies). Check your Yellow Pages under 'Security Systems and/or Consultants' for ASIAL's number.

ASIAL has around 300 members Australia-wide, and says most major security companies are members, as well as a good proportion of mid-sized companies. In order to qualify for membership, a company must have been in business for at least three years, have all relevant licences required by legislation, and show that its service and equipment comply with the Australian Standard.

■ Look for an alarm system on which the keypad is separate from the control box (for example, the keypad is located near the front door and the control box is hidden away in a cupboard) — it's preferable to keep the control box out of the way and hidden.

■ Don't locate the control box in your home's roof cavity — it's more vulnerable, and the heat in summer can affect the battery and electronics.

■ Make sure you and your family are familiar with how your alarm works. Some households, not confident that they can use the alarm system properly, allow too much time between the activation of the system and the sounding of the alarm. This can give burglars enough time to 'smash and grab' your valuables and get away. Experts recommend a maximum delay of 20 seconds.

Window locks

While none of the window locks we tested is likely to stop a determined burglar with a jemmy, some will hold one up for longer than others.

IN 42% OF HOME BURGLARIES IN NSW, burglars force a window. The Australian building code requires natural light to be provided to all main rooms in a home, with an area of glass equivalent to 10% of the floor area of each room. Most homes have much more than this minimum, creating plenty of 'windows of opportunity' for thieves to enter.

According to the NSW Major Crime Squad, the preferred method of breaking into a house through a window is to force (or 'jemmy') the window open by using a levering device. Smashing the glass is unpopular with burglars because it requires jagged glass to be cleared away before the window can be climbed through without injury, as well as potentially attracting unwanted attention.

So the sight of a window lock can itself have an important deterrent effect — it might be enough to send a prospective burglar looking for easier prey.

LOCKS GALORE

There are dozens of window locks on the market, and we couldn't test them all. We chose locks likely to be bought by do-it-yourself installers because they're sold by hardware stores, variety stores and locksmiths.

We tested locks for four different types of window — aluminium sliding, wooden awning (or hopper) windows, wooden casements and wooden double-hung (or sash) windows. (A sash is the part of any window — the glass and frame — that moves.) We didn't test patio door locks.

We applied a force to each lock until either it broke, or the window itself gave way. The forces at which this happened were well below those we'd determined the locks could be expected to encounter in real life (see *Performance score*, below). However, while no window lock will stop a determined burglar, some locks are clearly better performers than others.

Notes for the tables overleaf

1 Warranty

For those locks which quoted an 'unconditional' warranty, only vague time limits and conditions were given. This might lead to arguments in the event of a claim.

2 Ventilation position

Some locks for aluminium sliding windows and wooden double-hung windows (and some winders on awning/casement windows) allow the window to be locked in an open position to allow airflow. This is fine to use for extra security while you're home, but close and lock windows whenever you go out.

3 Fitting

We assessed how easy it is to fit the locks to a window, including how easy the fitting instructions were to use. The scale used was very difficult, difficult, OK, easy, very easy.

4 Performance score

There is no Australian Standard for window locks, so for each type of window, we devised a method to test the locks which corresponded to a real-life situation.

■ For aluminium sliding windows, we measured the force required to open a window that had a piece of dowel in the track, which is a security method many people use with this type of window. The window eventually rode over the top of the dowel, but it still withstood more force than any of the locks (see *Aluminium sliding windows* overleaf for details). We therefore gave the dowel a score of 100% and rated the locks relative to that.

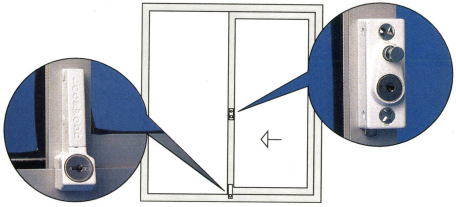
■ For all other windows, we found a leverage that could be applied in real life by measuring the force five people could each apply to a window frame using a screwdriver as a lever. We took the average of these to be a typical force the window locks could be expected to encounter, and called it 100%. The locks were then rated relative to that — all of them could be beaten before this level of force was reached.

Aluminium sliding windows

SLIDING WINDOWS ARE USUALLY made from aluminium — we didn't test window locks on sliding wooden windows, though some of the locks for wooden double-hung windows can be used on those too.

A sliding window consists of two panes — one is fixed, while the other slides across it. Most locks are fitted at the bottom of the vertical rail of the sliding sash, with the bolt passing through the runner — see Figure 1.

Figure 1. Most locks for sliding windows fit at the bottom of the vertical rail, over the runner. Testing showed that locks which fit higher up the vertical rail can withstand more force.



FORCED ENTRY: HOW WE TESTED

We bought small, standard aluminium sliding windows, one for each lock tested. Our scientific officer designed and built a rig to support the window, and to impart a force onto the sliding section of the window. The force was measured to determine the breaking point of the lock or, if that held, window.

SIMPLE MEASURES WORK

Far and away the best security against someone trying to break into a sliding window from the outside was provided by a piece of 32 mm x 12 mm radiata pine cut to length and placed in the window track. The pine withstood a force over twice that which the best-performing lock could survive before the window frame crumpled and the glass shattered.

The next best form of security was a piece of 16 mm dowel, also placed in the track. The sash eventually rode over the top of the dowel, allowing the window to open, but it still withstood more force than any of the locks.

Obviously, both these measures provide no security against a thief breaking the window or opening it from the inside — but we recommend them in combination with a good lock.

The best locks for sliding windows were the **LANE PWS 60** and the **BLACK & DECKER PWS 60**. However, these two don't suit all aluminium windows. Most locks for these are attached to the bottom of the moving sash, and hang down over the runner — see Figure 1.

The **LANE PWS 60** and **BLACK & DECKER PWS 60** are fixed higher up the vertical rail of the sliding sash, and the bolt passes through into the vertical rail of the fixed section instead of into the runner (see Figure 1). Because of this different operation, the vertical rail must be of a certain width.

They're also fairly difficult to fit, and unless you're a competent handyperson, we don't recommend you try to do it yourself.

If you need a lock that sits at the bottom of the sash of a sliding window, the best were the **WHITCO 2001** and the **LOCKWOOD 785**.

NOT RECOMMENDED

Although it scored well for strength, the **EZI-LOCK HU-303K** isn't recommended. It simply sits in the runner to prevent the window being opened — there's no bolt passing through to the fixed window frame. This means that when the window is locked open for ventilation, the movable sash can simply be lifted out. In addition, from the inside it took very little effort to prise the lock from the window track.

WHAT TO BUY

equal	**BLACK & DECKER** PWS 60	$12
	LANE PWS 60	$16
	WHITCO 2001	$16
	LOCKWOOD 785	$13

Locks for aluminium sliding windows

	Brand/model (in rank order)	Manufacturer/ distributor	Origin	Target price ($)*	1 Warranty	2 Ventilation position	3 Fitting	4 Performance score (%)
equal	**BLACK & DECKER** PWS 60	Black & Decker	Australia	12	Unconditional		OK	87 *(C)*
	LANE PWS 60	Black & Decker	Australia	16	Unconditional		OK	87 *(C)*
	WHITCO 2001	Whitco	Australia	16	Not stated	✓	Easy	81
	LOCKWOOD 785	Ogden Industries	Australia	13	*(A)*	✓	Very easy	76
	PRESTIGE Masterguard, Aluminium Sliding	Prestige Group	Australia	8	Not stated	✓	Easy	64
equal	**BLACK & DECKER** PWS 10	Black & Decker	Australia	10	Unconditional	✓	Easy	63
	LANE PWS 10	Black & Decker	Australia	12	Unconditional	✓	Easy	63
	LOK-SAFE 400 series	Security Hardware	Australia	13	Not stated	✓	Easy	59
	NOT RECOMMENDED (see above for explanation)							
	EZI-LOCK HU-303K	Hurricane Imports	China	5	Not stated	✓ *(B)*	Easy	79

* Prices shown are a good target to aim for when shopping around, based on nationwide checks in December 1995. Prices are for single locks; some come in multiple packs, which may work out cheaper if you need several.

(A) Guaranteed against faulty materials and workmanship.
(B) Not secure — see *Not recommended*, above.
(C) Not suitable for windows with a narrow vertical rail.

Wooden double-hung windows

DOUBLE-HUNG WINDOWS ARE also referred to as sash windows. They're usually made from timber and consist of two sashes — either the bottom one or both slide up and down.

We tested locks which fitted to the inside sash, with the bolt passing through it into the outside sash. A lock is usually placed either on the side rail of the frame, or in the middle of the horizontal rail — see Figure 2.

FORCED ENTRY: HOW WE TESTED

Testing wooden windows was complicated by the fact that the type and quality of timber in the frame and sill vary, and this affects how successfully a lock will withstand intrusion.

Rather than buying windows, we ensured consistency by developing a test rig and using carefully standardised pieces of wood. All the wood used was cut to size, checked for flaws or impurities, and weighed to ensure the density was within certain limits.

Some locks can be fitted in only one of the positions described above, while others give you the option of putting them either in the middle of the horizontal rail or at the side. To test locks for both positions, one 'sash' of the rig was fixed, and a force applied to the other 'sash' (to which the lock was attached) to replicate a person attempting to jemmy open one of the sashes.

THE WINNING SIDE

For locks with an optional mounting position, putting the lock at the side rather than in the middle improved its performance, sometimes dramatically.

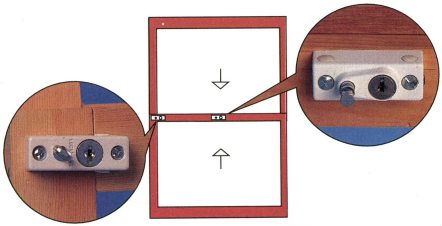
The reason for this is that when locks are mid-mounted, the force applied is at right angles to the grain of the wood, and there's usually only a couple of centimetres of wood at most to break through on the sash. None of the locks with only a mid-mounted position is recommended, or any that scored less than 50%.

With a lock on the side rail, the force is being applied in the direction of the grain, and along the length of the rail, so there's less chance of the wood breaking away. For this reason, for locks that can be mounted in either the side or middle position, we've only given the score for the side position in the table.

The best lock for double-hung windows was the **LOCKWOOD 880**, with six others providing a reasonable level of deterrence when fitted in the side rail position.

Note that the **LANE PWS 40** and the **BLACK & DECKER PWS 40** are not suitable for older-style double-hung windows with decorative 'horns' — protruding stubs at the top of each side of the lower sash.

Figure 2. Look for a lock for double-hung windows that can be mounted on the side rail of the sash, rather than in the centre of the horizontal rail. Locks at the side withstood more force.



WHAT TO BUY

	LOCKWOOD 880	$13
	LOK-SAFE 30 Series	$14
equal	**BLACK & DECKER** PWS 40	$10
equal	**BLACK & DECKER** PWS 60	$12
equal	**LANE** PWS 40	$13
equal	**LANE** PWS 60	$16

Locks for wooden double-hung windows

Brand/model (in rank order)	Manufacturer/ distributor	Origin	Target price ($)*	Warranty	1 Ventilation position	2 Fitting	3 Performance score (%)	4
LOCKWOOD 880	Ogden Industries	Australia	13	*(A)*	✓ *(C)*	Very easy	64	
LOK-SAFE 30 series	Security Hardware	Australia	14	Not stated	✓	Easy	60	
BLACK & DECKER PWS 40	Black & Decker	Australia	10	Unconditional	✓ *(C)*	OK	55	
BLACK & DECKER PWS 60	Black & Decker	Australia	12	Unconditional	✓ *(C)*	OK	55 *(D)*	
LANE PWS 40	Black & Decker	Australia	13	Unconditional	✓ *(C)*	OK	55	
LANE PWS 60	Black & Decker	Australia	16	Unconditional	✓ *(C)*	OK	55 *(D)*	
WHITCO 2051	Whitco	Australia	17	Not stated	✓ *(C)*	Easy	51 *(D)*	
NOT RECOMMENDED (scored less than 50%)								
PRESTIGE Masterguard, timber multi-purpose	Prestige Group	Australia	7	Not stated	✓ *(C)*	Easy	38 *(D)*	
LACK & DECKER PWS 20	Black & Decker	Australia	10	Unconditional		Easy	26	
NE PWS 20	Black & Decker	Australia	12	Unconditional		Easy	26	
ITCO 2731 Sash lock	Whitco	Australia	11	12 months *(B)*		Easy	25	

s shown are a good target to aim for when shopping based on nationwide checks in December 1995. re for single locks; some come in multiple packs, y work out cheaper if you need several.

(A) Guaranteed against faulty materials and workmanship.
(B) Workmanship and materials.
(C) This lock can also be used on some sliding wooden windows, and has a ventilation position for them too.
(D) This was the score when the lock was mounted on the side rail of the double-hung windows, not in the middle of the horizontal rail (which is given as an option in the instructions) — see above for more information.

Wooden awning and casement windows

IN AN AWNING OR HOPPER WINDOW, the sash pushes out from the bottom. They're often made from timber.

A **casement** window follows the same principle of swinging out on hinges, but pushes out from one side. They're also often timber.

Because the action is similar, the same locks can generally be used on both types of window. There are three types of lock — one a catch mechanism that holds one rail of the sash to the sill (for awnings) or to the vertical frame (casements), the second fitted in the same places but using a bolt instead of a catch (see Figures 3 and 4), and the third a lockable winder.

Figure 3. Lock for an awning window.

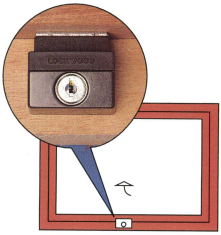
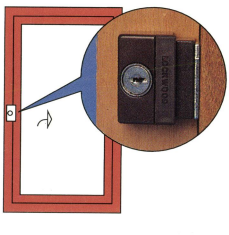


Figure 4. Lock for a casement window.



FORCED ENTRY: HOW WE TESTED

Because a casement window is basically an awning window turned on its side, we were able to test locks for both windows using the same rig. Once again, it was set up using standardised types and sizes of wood.

We pulled the sash adjacent to the lock away from the sill or frame until the lock or timber broke — a similar action to someone attempting to jemmy open the window from the outside.

CLEARING THE AIR

Many casement and awning windows have winders fitted, which hold the window a few centimetres open and give you some airflow. We tested two lockable winders — the **LOCKWOOD** 870 and the **WHITCO** 3603.

Any open window, even with a locked winder, is an obvious security gap, so we tested the locks to see how well they stood up to forcing when the window was closed. They didn't perform well — not well enough to be recommended as adequate security on their own.

However, the two locks which came out best in the test for these types of window, the **LOCKWOOD** 885 and the **WHITCO** 3531, can be used in conjunction with a winder. So if you just want a good lock, buy one of these two; if you want a winder too, use a lock and a lockable winder in combination.

The best locks relied on the ability of the screws to hold firmly into the wood, rather than on a bolt fitting through the sill or frame. Because the jemmying force is applied at right angles to the grain of the wood, in the latter case the timber tends to break away easily.

WHAT TO BUY

LOCKWOOD 885 ..... $13
WHITCO 3531 ..... $18

Locks for wooden awning/casement windows

	Brand/model (in rank order)	Manufacturer/ distributor	Origin	Target price ($)*	1 Warranty	2 Ventilation position	3 Fitting	4 Performance score (%)
	LOCKWOOD 885	Ogden Industries	Australia	13	Unconditional *(A)*		Very easy	62
	WHITCO 3531	Whitco	Australia	18	Not stated		Easy	54
	NOT RECOMMENDED (scored less than 50%)							
equal	**BLACK & DECKER** PWS 50	Black & Decker	Australia	10	Unconditional		OK	45
	LANE PWS 50	Black & Decker	Australia	14	Unconditional		OK	45
	LOK-SAFE 100 series	Security Hardware	Australia	16	Not stated		Easy	39 *(C)*
equal	**BLACK & DECKER** PWS 40	Black & Decker	Australia	10	Unconditional		OK	36
	LANE PWS 40	Black & Decker	Australia	13	Unconditional		OK	36
	LOK-SAFE 1000 series	Security Hardware	Australia	13	Not stated		Easy	33
equal	**LOCKWOOD** 880	Ogden Industries	Australia	13	*(A)*		Very easy	32
	PRESTIGE Masterguard, timber multi-purpose	Prestige Group	Australia	7	Not stated		Easy	32
	WHITCO 2051	Whitco	Australia	17	Not stated		Easy	30
	LOK-SAFE LS 20	Security Hardware	Australia	11	Not stated		Easy	28
	WHITCO 3603 (winder)	Whitco	Australia	30	12 months *(A)*	✓	Easy	27
	WHITCO 2031	Whitco	Australia	19	12 months *(A)*		Easy	26
	LOCKWOOD 870 (winder)	Ogden Industries	Australia	35	*(B)*	✓	Easy	

* Prices shown are a good target to aim for when shopping around, based on nationwide checks in December 1995. Prices are for single locks; some come in multiple packs, which may work out cheaper if you need several.

(A) Workmanship and materials.

(B) Guaranteed against faulty materials and workmanship.

(C) When used according to Fi

If you have two casement windows next to each other which have their hinges on opposite sides, be careful which lock you buy. With some you'll end up with a non-symmetrical effect.

Installing locks

It's important window locks are properly installed — shoddy installation can prevent them working to their best potential. The locks that were the easiest to install had step-by-step instructions and indicated the tools required to do the job. We've noted how easy installation was in the tables. The **LOCKWOODs** had the best instructions — they usually came with a template to help accurately locate the holes.

When fitting any lock, ensure that screws or drill bits clear the glass line, otherwise the window can shatter. This is especially important with aluminium sliding windows, because the vertical rail can be very narrow, and you must be very accurate with the drill to avoid the glass.

Holes drilled to make a bolt hole need to be at exactly the right angle, otherwise the bolt will bind in the hole. If you're not confident of your DIY skills, it's probably better to get a locksmith in to fit the locks. They will usually charge between $10 and $20 to install a lock — plus the cost of the lock if they supply it as well.

Handy hints

- Fit two locks to large windows (over a metre in length), one at each end of the window. Otherwise burglars can work open the end of the sash without a lock attached in order to get a good purchase to force the whole window open.
- Consider using tamper-proof screws, which are supplied with some locks. These are screwed in clockwise, but cannot be turned anti-clockwise. They can be bought separately. However, they can make life difficult if you'll want to remove the lock later to paint the window frame, for example.
- There are alternatives to locks which can work just as well. Windows that are never opened for ventilation can be nailed or screwed shut — but make sure there's another escape route in case of fire.
- New aluminium windows often come with keyed locks supplied by the manufacturer. They're usually very rudimentary, and are often located in the centre of the vertical rail (so there's no locked ventilation position). Locksmiths we spoke to suggest you'll get better security by buying and fitting your own locks.

Keying locks alike

For convenience and safety, it's a good idea to have all your window locks keyed alike; some are available in bulk packs which already are.

Locksmiths can key locks alike for under $10 per lock (it varies, so ring around), though this service usually comes free if you buy the locks from the locksmith. While different *types* of lock can generally be keyed alike, there's often a problem if they're different brands.

What to look for

- **Suitability:** Make sure you choose a lock that suits the type of window and frame material. Some locks can physically be fitted only to windows of a certain size or shape. Others offer good security only if they are fitted in a certain way. Check that any lock will fit your windows before buying a number of them.
- **Ventilation:** See the tables for locks that offer a locked-open ventilation position. Most of the recommended locks for aluminium sliding windows or wooden double-hung windows do. You may need a winder to hold an awning or casement window open — some winders come with a lock, but we didn't find the ones tested offered much security. Fit a good lock as well.

  The suggested maximum open position for any window is 10 cm. The danger of leaving the window in a ventilated position is that, because the window is already open, there's greater access for a burglar's 'tools of trade'. Never leave a window open when you go out, even if it locks open.

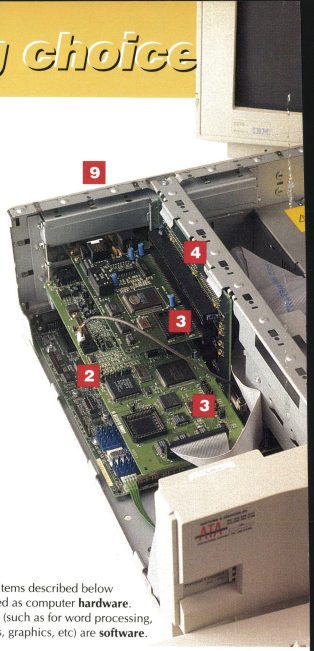
Black & Decker/ Lane locks

When we were checking prices before going to press (early February), these two brands were very hard to find in the shops. The distributor told us they were being repackaged from single into bulk packs and should be easily available again soon.

BLACK & DECKER locks are available from K-Mart, **LANE** from BBC/Home Hardware.

Inside your computer

If you're planning to buy a computer and they're all just grey boxes to you, here's some information on what's under the cover.



■ All the items described below are classed as computer **hardware**. Programs (such as for word processing, databases, graphics, etc) are **software**.

THE PHOTO SHOWS THE MOST IMPORTANT PARTS of a computer. While the actual layout may vary from model to model, you'll find most desktop computers follow a similar design.

Unless you're suitably experienced, we don't recommend you open up your computer and fiddle with the insides. If for any reason you do, always disconnect it from the mains power supply, and discharge any static build-up on yourself by touching an 'earth' — a metal tap, for example — before you start opening things up. (Static electricity could damage sensitive parts of your computer.)

HOW IT ALL WORKS TOGETHER

To get a feel for how a computer works it's necessary to understand how individual components work together. (See the notes on the right for an explanation of the meanings of words in bold type in the following paragraphs.)

When you switch your computer on, the **power supply** provides the correct voltages to power the computer. The **CPU** then follows a set of instructions in the **BIOS** (or **ROM**) and checks that the system is working and that everything is connected properly.

If everything's OK, the operating system (the set of instructions which tells the computer how to work) is loaded from the **hard disk** into the computer's **RAM**. The computer is now ready for work.

Let's say you want to write a letter. When you start your word processing program, it is loaded from the **hard disk** and put into **RAM**. The **CPU** carries out the instructions contained in the program and the results are displayed on the **monitor**.

When you've typed in your letter, you can save the finished document on the **hard disk**, so it's not lost when you switch off your computer. And of course you can also print it.

Alternatively, you can save it on a **floppy disk**, which you can take away and use in another computer.

1 **Power supply:** This converts the 240 volt power supplied by your household electrical socket into voltages your computer can use. If you're buying a new computer, or replacing a power supply in an existing machine, check with the retailer that the power supply has enough power to handle any attachments (such as extra memory, sound cards or graphics cards) you might add to your computer.

2 **Motherboard:** This is the main circuit board inside your computer. The CPU, RAM and BIOS/ROM (see right) are on this board.

CPU (central processing unit — not visible in photo)**:** This is the 'electronic brain' of the computer, which does most of the hard work carrying out instructions. Most new PCs are powered by a Pentium processor, while most new Macintoshes are powered by a PowerPC processor. The speed of the CPU is measured in megahertz, and is usually shown as, for example, 'Pentium 90' or '90 MHz'. The higher the number, the faster the computer.

BIOS/ROM (not visible in photo)**:** PCs have what is known as BIOS (basic input/output system) — a type of 'read only memory' (ROM) which the computer can read information from but not change in any way. This contains a short set of instructions which tell the computer what to do when it's switched on, such as to load the operating system from the hard disk (the operating system tells the computer how to work). Macintosh computers are slightly different in that they too have ROM, but it contains a much more complex set of instructions, which include part of the operating system.

RAM (random access memory — not visible in photo)**:** Also commonly referred to as just 'memory', RAM is the short-term workspace where the computer stores instructions (programs) and information it's currently working on. When you switch off your computer, anything stored in RAM is lost, so it's important to save any documents you want to keep on the hard disk or a floppy disk. Memory is measured in megabytes (Mb). Most new computers come with at least 8 Mb of RAM, which should be enough for most home users. Generally speaking, increasing your computer's RAM/memory will mean your software will run faster and more efficiently.

3 **Card:** A 'card' is a circuit board which plugs into a slot inside your computer and adds extra functions. Thus it's possible, for example, to upgrade your computer's sound and graphics to a standard which may not have been available when your computer was first built.

4 **Slots:** Slots allow you to expand the capabilities of your computer by adding extra cards. It's important that any cards you may want to add to your computer are compatible with its slots. There are several different types of slots around, depending on the model of computer you own and the type of 'bus' it has.

Bus (not visible in photo): The bus is a series of circuits which connect different components on the motherboard to the CPU. Its job is to move information around inside your computer. Many newer PCs and Macintosh computers have a PCI (peripheral component interconnect) bus, and it's a good idea to check that any computer you buy has one.

5 **Floppy disk drive:** You've probably come across 3.5 inch disks (the computer industry still talks in inches), commonly referred to as 'floppies' (they actually come in a hard plastic case, but earlier types were flexible). They're widely used to distribute software, store information, make back-up files and transfer files between computers. Compared to hard disks (see below), floppy disks are relatively slow and can only hold small amounts of information. You put the disk into the floppy disk drive to retrieve and use the info stored on the disk.

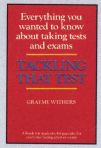
6 **Hard disk:** Like a floppy disk, a hard disk allows you to store information and programs. The main difference is that you can't carry it around like a floppy disk, though a hard disk is much faster and can store much more information. Like memory (RAM), the space on a hard disk is measured in megabytes. Most new computers come with a hard disk with at least 540 Mb of space, which is enough for most home users.

7 **CD-ROM drive:** Computer CDs, which look very much like music CDs, are another information storage medium, but are used mainly to store pre-recorded information. They're particularly useful for multimedia software, which requires a lot of storage space for video and sound data. While it's possible to record your information on CDs using your personal computer and a special CD-ROM writer, it is very expensive to do so.

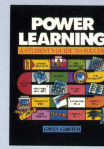
CD-ROM drives are rated according to their speed; most new computers come with 'quad' speed drives, which is the minimum required for many multimedia titles.

8 **Monitor:** Similar to a television in appearance, the monitor allows you to see what you're doing on your computer. Most new computers are supplied with either a 14" or 15" colour monitor. A 14" monitor is adequate for most tasks. Before you buy one check it doesn't flicker — 'non-interlace' monitors are better in this respect.

9 **Ports:** Found on the back of most computers, 'ports' are sockets which allow you to connect other devices, such as printers and modems, to your computer.

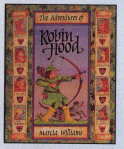


Tackling that Test
Whatever test or exam you may be facing (school, university, college or employment), *Tackling that Test* provides invaluable advice about preparing for and taking part in exams. It includes practical advice and examples.
$16 **Code: TTT**

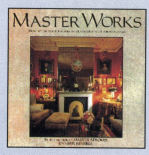


Power Learning
If you're a student, this very thorough, helpful book will help you identify your learning style and expand your repertoire of learning strategies.
$14.50 **Code: PL**

The Big Switch
Electricity is essential for our modern way of life. But can we have clean, safe and readily available electricity in the 21st century that will not have a negative impact on jobs and the environment? This book looks at the issues.
$17 **Code: TBS**

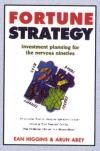


The Adventures of Robin Hood
The latest title from the author/illustrator of the popular *Greek Myths*. The tales of Sherwood Forest are told in amusing comic style for young and not so young readers.
$20 **Code: TARH**



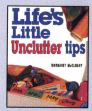
Master Works
Practical and inspirational ideas and techniques for designing and decorating furniture, walls, floors and fabrics with wonderful painted finishes. Superbly illustrated, and covering many old and new techniques, this book will inspire novice and experienced decorator alike.
$40 **Code MW**

Let's Move!
An essential handbook for those moving home
Home selling and buying are the largest financial deals most of us will ever make — they're too important to leave to chance. *Let's Move!* gives sensible, relevant advice about selling, buying, building and moving house. It includes useful checklists and addresses.
$17 **Code: LM**



Fortune Strategy
If you would like to know about investment strategies at a reasonably sophisticated level, this book explains the topic in an easy-to-understand way. It explores investing in both equities and property, and covers, among other things, risk management via 'portfolio theory'.
$25 **Code FS**

The Good Gift Guide
Creative gift giving for all occasions
Most of us want to find a special present but aren't quite sure what to give. *The Good Gift Guide* not only has wonderful ideas for gifts for all sorts of occasions, it also includes information about wrapping, cards and last-minute gifts.
$17 **Code: TGGG**



Life's Little Unclutter Tips & Life's Little Time Management Tips
All the advice you need to get rid of everything you no longer need in your life, to reduce the clutter and confusion, and to work faster and smarter in the future. Help for you to achieve a more streamlined life.
$13 **Code: TIPS**

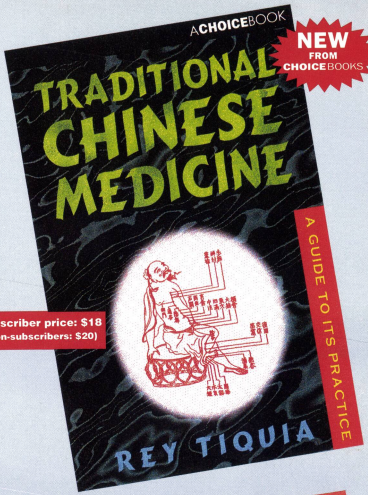
Traditional Chinese Medicine

A Guide to its Practice

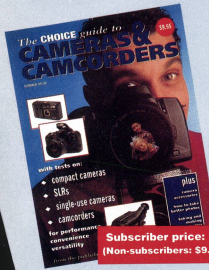
Acupuncture is now widely practised in western countries. Chinese herbal medicine, too, has earned a reputation for healing conditions conventional medicine may not be able to help. But outside China little is known of traditional food therapy (shi lao), or Chinese massage (tuina), or the preventive medicine known as yang sheng. *Traditional Chinese Medicine* explains the fundamental principles that underpin all these disciplines — such as the principle of 'balance' — and details how each practice operates.

The author, Rey Tiquia, was born in the Philippines and studied at the Beijing College of Traditional Chinese Medicine before moving to Australia. His book has been written for those with no prior knowlege of the topic, and is an attempt to demystify Chinese medicine. By providing an understanding of its principles and practices, he hopes to give us a new way of looking at how we live and what makes us unwell.

Code: TCM



Subscriber price: $18
(Non-subscribers: $20)



Subscriber price: $9
(Non-subscribers: $9.95)

The CHOICE Guide to Cameras & Camcorders

his guide contains results of independent ropean tests of compact cameras, SLRs, camcorders, single-use cameras and ssories, almost all of which are ilable in Australia. With this guide, be able to judge which features are having and which are just expensive ks. You'll also find advice on tography and making home videos.

Code: CGCC

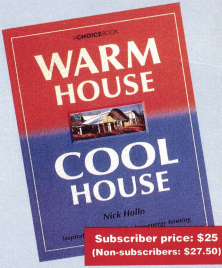
Subscriber price: $14.50
(Non-subscribers: $16)

The CHOICE Guide to Baby Products

Third edition

The CHOICE Guide to Baby Products gives invaluable specific and general advice about what to look for (and look out for) when buying for your baby. It starts with a checklist of what parents will need when the baby arrives, and then gives reports of tests and surveys that have been carried out for CHOICE.

Code: CGBP



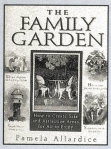
Subscriber price: $25
(Non-subscribers: $27.50)

Warm House Cool House

Inspirational designs for low-energy housing

Warm House Cool House explains simply the principles of energy-efficient housing, with more than 110 examples from around Australia. This book will offer you inspiration and ideas on how to make your house a comfortable, affordable and attractive place to live in all year round.

Code: WHCH



The Family Garden

How to create safe and attractive areas for all to enjoy

A garden for the family has to consider a lot of things: a range of ages and uses, the furniture, the plants, pets and safety. This book provides inspiration and advice on getting the perfect garden for your family.

$35 **Code: FG**

Switch!

Home-based power, water and sewerage systems for the twenty-first century

The authors have a house powered by a home-made waterwheel and by the sun through photovoltaic cells; their water comes from a local creek. They share their knowledge of how to set up such systems, plus other green ideas. For rural dwellers.

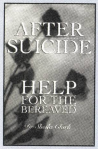
$18 **Code: SWIT**

Handling It

You and your long-term disease

This book aims to help people learn how they can best cope with long-term disease. The author, a journalist who herself was diagnosed with MS, has interviewed 40 people whose stories are inspirational and enlightening. It could also help relatives and friends who need to understand someone with a long-term disease or disability.

$17 **Code: HI**

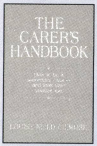


After Suicide

Help for the bereaved

When a person commits suicide no one knows what to say or when to say it. *After Suicide* is designed to help friends and family cope with this emotional situation. Its advice is easy to read and will help those left behind to resolve some of the issues that remain.

$15 **Code: AS**



The Carer's Handbook

How to be a successful carer — after yourself too

This book offers help to care
no-nonsense style. It discus
communications, managi
practical day-to-day de
carer, dealing with dis
getting external help.

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1M9603 INS

Multiple music

Just owning a CD player was once enough to send your friends green with envy — now if you haven't upgraded your hifi system to a multi-disc, some will tell you you're behind the times.

CD PLAYERS HAVE SETTLED INTO OUR LIVING rooms, and it's hard to imagine how we ever got along without one. Now the question is: do you need to upgrade your hifi component system to include a multi-disc player?

All CD players sound superb, and generally only 'golden-eared' experts claim to be able to tell them apart. Because they're so good, we now only do basic audio tests to check that nothing's amiss — other than that, even technical tests have trouble finding meaningful differences in sound quality. So, for ordinary mortals, choosing a CD player comes down to picking one that can do everything you want and that's also easy to use.

WHY BUY A MULTI-DISC?

A basic single-disc CD player will let you program tracks in any order, skip unwanted tracks and repeat others.

A multi-disc player, on the other hand, gives you greater versatility — you can sit back, relax and, with five-disc players, listen to as many as 50 to 100 tracks (assuming 10 to 20 per disc) without ever having to leave your seat — no more interrupted dinner parties or other musically accompanied activities. You can listen to tracks in any order you like from a combination of CDs, or listen to one CD at a time — the options are almost endless.

You can even get players which hold as many as 100 discs, but they're not as popular here as in the US and can be very expensive.

We tested all the multi-disc CD players we could find with a remote control and a purchase price between $400 and $500 at the time we were buying them. This is the most popular price range for multi-disc players.

SWINGS AND ROUNDABOUTS

If you think this couch-potato style of listening might be just the thing for you, it's not as simple as just deciding you want a multi-disc. They come in two distinct types, each with its advantages.

■ **Carousel-type** players have a drawer which slides out from the front of the unit, presenting you with a rotating platter with space for a number of discs (all the ones we tested hold five). You can open the drawer while one disc is playing and look at or change the other discs if you want to.

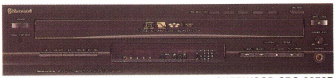
■ **Cartridge-type** players have a cartridge which is inserted into the machine. Each cartridge holds a number of CDs (the only player of this type in our test held six). One

YAMAHA CDC-655

MARANTZ CC45

SONY CDP-C365

KENWOOD DP-R4070



SHERWOOD CDC-6050R

YAMAHA CDC-555

JVC XL-F216

TECHNICS SL-PD887

PIONEER PD-M423

disadvantage of this system is that you can't look at or change any of the CDs while one is playing, unless there's a single-play drawer (the one we tested didn't have one). However, there are some real advantages:

— If you buy a compatible system for your car, you can move your favourite selection around with you.

— If you buy enough cartridges for all your discs, you won't have to handle each disc as often. Even though popular myth has held CDs to be indestructible, rough handling, sunlight, dirt and grime can all damage your valuable collection. Of course, if you want to change disc combinations all the time you may end up handling them just as much as you would for a carousel type. You'll also have to store the original cases somewhere, or keep a record of each CD's track list, both of which could prove to be a hassle.

Practically speaking, both types of multi-disc player find and start to play tracks as fast as each other, so it will really come down to which type you think will suit you best.

WHAT TO BUY

	YAMAHA CDC-655	$500
equal	**MARANTZ** CC45	$500
	SONY CDP-C365 BEST BUY	$400

All the players sound good and would be fine if you just want to listen to music and forget all the fancy program-recording features. *What do you want?* on page 36 shows which are best suited to different people's needs.

The **YAMAHA** CDC-655 was the best machine overall and it was particularly easy for programming tracks manually from different CDs onto a tape. In fact, it was the only machine that could do this without any fuss.

The **MARANTZ** CC45 and **SONY** CDP-C365 weren't far behind, but at $100 less the **SONY** CDP-C365 is our **Best Buy**.

However, the **MARANTZ** was particularly easy to use — more so than either the **YAMAHA** or **SONY**. And although you can't manually program it to record to a tape length from more than one disc, it was the only player that can automatically work out which tracks from a single CD will best fit onto each side of a tape (see *What do you want?* on page 36 for more information).

Features

The simpler features are listed in the table, the more complex ones explained here. Note: Brand name references apply only to the models we tested.

Current disc presented to the front: On carousel models, when the player has stopped and the drawer is opened, the disc that was last playing is presented to the front. Only the **JVC**, **SONY** and the two **YAMAHA** models do this.

Single-play position: If you only want to play one CD, there is a preferred disc position. This avoids your having to tell the machine in which position you have placed the disc. Only the **MARANTZ** and **SONY** have this feature.

Auto scan for discs: When the drawer is closed the player scans all the disc positions and shows on the display which have discs in them. This saves you playing 'hunt-the-disc'. The **JVC**, **SHERWOOD**, **SONY** and **MARANTZ** have it.

Intro play: All the models except the **JVC** and **KENWOOD** play small samples of each track or each disc, to help you find an elusive track or work out which discs you have in the player.

Fade in/fade out: Rather than abruptly starting or finishing a piece of music (during intro play, for example) the volume is slowly increased or decreased to give a smooth transition. The **SONY** and **MARANTZ** were the only models to offer this.

Exchange play: All the models except the **PIONEER** allow you to open the unit while a disc is playing and change the other discs.

Delete play: Rather than having to program each of the tracks you want to hear, this function lets you tell the machine which tracks you don't want. It's useful if you simply can't stand one particular track on an otherwise great CD. The **SHERWOOD**, **TECHNICS** and **PIONEER** offer this feature.

Index search: Long pieces of music, particularly classical music, sometimes have silent index marks which allow CD players to identify particular sections or movements. The two **YAMAHA** players are the only ones which can search for these marks so you can find your favourite sections easily. If index marks are on a CD, you'll usually find this noted on the cover.

Synchro dubbing/recording: If you have a cassette deck of the same brand (or in some instances the same series within a brand) you can do one-touch recording. This means you only need to use one set of controls (for example those on the remote) to start the CD playing and the cassette deck recording. It's handy if you do a lot of recording, though the cynical might suggest

We found two types of multi-disc loading systems — cartridge (top) and carousel. Both have advantages — see *Swings and roundabouts.*

it's a good way to get you to buy all your components from the one manufacturer. The **JVC**, **KENWOOD**, **MARANTZ**, **SHERWOOD** and both **YAMAHA** models offer this feature.

Music search: This is like a fast-forward or rewind button on a cassette deck, only you can hear the music quickly whizzing by. It's useful for finding a particular section of music you want to hear. All the models we tested had this function.

Peak level search: When taping it's important to set the recording level so it's not too high for even the loudest part of the music — otherwise the recording may be distorted. The **MARANTZ**, **SONY** and **YAMAHA CDC-655** can all search for the loudest part of a CD and will play this over and over until you have correctly set the recording level, although they only search one CD. The **YAMAHA**, however, only searches a segment of a disc, so it may not really find the loudest part.

Volume control: A volume control can have two different functions. Four models, the **JVC**, **KENWOOD**, **SHERWOOD** and **YAMAHA CDC-655** have a volume control which allows you to change the volume you hear through the headphones. However, the **MARANTZ**, which doesn't have a headphone socket, has a volume control which allows you to alter the volume coming out of the speakers by remote. Without this, you would have to use your amplifier's remote (if it has one) or do it manually. The **YAMAHA CDC-655's** volume control can function in both ways.

Random play: You can tell the player to select tracks at random, rather than playing them in their normal order. All the models tested could select random tracks from all discs, and most (not the **JVC**, **KENWOOD** and **PIONEER**) could also randomly play from one disc only.

Repeat play: All the models tested could keep playing all discs over and over. However, some machines could also repeat just one disc, and some just one song. The table gives details.

What to look for

All CD players sound very good, so don't be swayed by arguments of superior sound quality. Unless you think you're one of the 'golden-eared' experts, paying more won't be reflected in what you hear. Instead, look for useful features and a machine that's only as complicated as it needs to be.

- Decide which type of machine you prefer — single-disc, multi-disc carousel or multi-disc cartridge. Their pros and cons are discussed on pages 33–34.
- Check that the player you're interested in has all the features you want. *Features*, left, describes the more complex ones we thought were worth having; the simpler ones are listed in the main table overleaf.
- If the main reason you're considering a multi-disc player is so you can listen to tracks on several CDs without changing discs, any multi-disc player is likely to do what you need. But you might want to check whether you have to lock every step of a program in (which means more button pushing), and how easy it is to modify a program. Ask for a demonstration, and look at the instruction book to check how easy the instructions are to understand.
- You might want to consider buying the same-brand CD as your cassette deck. In most cases that's the only way you'll be able to do one-touch 'synchro' recording (see *Features* for an explanation), but check your cassette deck is capable of synchro recording. It also means you only need one remote control for your system.
- If you think you'll want to do a lot of recording to tape from your multi-disc CD player, check whether it has the versatility you need — can you program from several CDs at the same time? How easy is it to do? Can you understand the instructions easily? How much of the programming can it do for you automatically? Ask for a demonstration.

Multi-disc CD players

	Brand/model (in rank order)	Manufacturer/ distributor	Origin	Target price ($)*	Warranty (years)	Size (WxDxH, mm)	Disc holding system	1 Single-play position	2 Auto scan for discs	3 Repeat one track	4 Repeat one disc	4 Repeat all discs
	YAMAHA CDC-655	Yamaha	Malaysia	500	2 *(A)*	435 x 395 x 105	Carousel, 5 discs			✓	✓	✓
equal	**MARANTZ** CC45	Marantz	Singapore	500	3	435 x 395 x 120	Carousel, 5 discs	✓	✓		✓	✓
	SONY CDP-C365	Sony	Malaysia	400	3	430 x 390 x 120	Carousel, 5 discs	✓	✓	✓	✓	✓
	SHERWOOD CDC-6050R	Electronic Imports	Korea	400	3 *(B)*	440 x 390 x 110	Carousel, 5 discs		✓	✓	✓	✓
	KENWOOD DP-R4070	Kenwood	Malaysia	400	2 *(C)*	440 x 400 x 120	Carousel, 5 discs			✓	✓	✓
	YAMAHA CDC-555	Yamaha	Malaysia	400	2 *(A)*	435 x 395 x 105	Carousel, 5 discs			✓	✓	✓
	JVC XL-F216	Hagemeyer	Japan	450	3	435 x 420 x 130	Carousel, 5 discs		✓	✓		✓
	TECHNICS SL-PD887	Panasonic	Japan	450	1 *(D)*	430 x 410 x 125	Carousel, 5 discs					✓
	PIONEER PD-M423	Pioneer	Japan	400	3 *(E)*	420 x 300 x 105	Cartridge, 6 discs			✓		✓

* Prices shown are a good target to aim for when shopping around, based on nationwide checks in December 1995.

(A) One year on remote control.
(B) 90 days on remote control, one year on laser mechanism.
(C) One year on laser pick-up.
(D) Additional two years if you return the warranty card.
(E) One year on remote control and laser optics.
(F) To play 8 cm discs you need to buy a special cartridge.

What do you want?

Apart from just listening to CDs, there are two things you might want to program your CD player to do:

- To play a particular sequence of tracks that you want to listen to.
- To play a particular sequence of tracks you want to record onto tape.

Different CD players attack these two problems in different ways — and with varying levels of sophistication.

When it comes to programming a **listening-only program**, all the players could remember at least 30 tracks. But one, the **SHERWOOD**, requires you to lock in each step, which means more buttons to press.

All the models let you modify a listening program in some way once it's set. But the best let you not only add a track to the end of a program, but actually change particular tracks within a program. Only the **JVC**, **KENWOOD**, **PIONEER**, **SHERWOOD** and the two **YAMAHA** models had the flexibility to make both sorts of change.

	IF YOU WANT:			PROGRAMMING TO A FIXED TAPE LENGTH:		
Brand/model (in overall rank order)	**Just to play CDs**	**An easy-to-use player**	**A features-packed player**	**Automatic**	**Easy to program manually from one CD**	**Easy to program manually from several CDs**
YAMAHA CDC-655	✓	✓	✓	✓	✓	✓
MARANTZ CC45	✓	✓	✓	✓		
SONY CDP-C365	✓	✓	✓	✓		
SHERWOOD CDC-6050R	✓	✓		✓	✓	
KENWOOD DP-R4070	✓			✓		
YAMAHA CDC-555	✓	✓				
JVC XL-F216	✓	✓				
TECHNICS SL-PD887	✓	✓		✓		
PIONEER PD-M423	✓					

PROGRAMMING TO A FIXED TAPE LENGTH:

Automatic

This means the CD player can automatically work out how many whole songs (in the order they appear on the CD) will fit onto each side of a tape. Not every track may fit, but you won't get any half tracks on the end.

Only the **MARANTZ** can automatically change the order of songs on a CD to fit the maximum number of whole tracks on both sides of the tape. In this case, all you have to do is tell the player how long your tape is — it does the rest.

Easy to program manually from one CD

This means you decide which tracks you want to record and fit onto a tape. The most helpful models show you how many minutes of recording time are left (or how many you have used up) on each side of the tape as you add each song to the program. You can program manually from one CD with the **KENWOOD**, but it doesn't give this help. You can do it in a roundabout way with the **SONY**, but it doesn't tell you if all the tracks will fit.

Easy to program manually from several CDs

The **YAMAHA CDC-655** is the only model that allows you to program from all five discs in one hit and still fit your program onto a tape with no half tracks at the end. You can achieve the same result with the **KENWOOD**, but only one CD at a time. The other players can't calculate a tape length for more than one CD.

5	5	6	7	8	9	10	11	12	13	
Random play disc	Random play all discs	Delete play	Can play 12 cm and 8 cm discs	Remote on / off	Headphone socket	Features score (%)	Ease of use score (%)	Programming score (%)	Overall score (%)	Brand/model (in rank order)
	✓		✓		✓	75	71	100	81	**YAMAHA** CDC-655
	✓		✓			70	91	57	73	**MARANTZ** CC45
	✓		✓			70	77	71	73	**SONY** CDP-C365
	✓	✓	✓		✓	65	77	57	67	**SHERWOOD** CDC-6050R
	✓		✓		✓	45	57	100	66	**KENWOOD** DP-R4070
	✓		✓			60	73	57	64	**YAMAHA** CDC-555
	✓		✓	✓	✓	55	70	57	61	**JVC** XL-F216
	✓	✓	✓	✓		45	67	57	56	**TECHNICS** SL-PD887
	✓	✓	(F)	✓		40	64	57	54	**PIONEER** PD-M423

equal

1 Disc holding system
All the carousel units we tested have a front-opening drawer, which holds a turntable-type arrangement of five discs. The **PIONEER PD-M423** uses a different system, a removable cartridge, which holds six discs. See pages 33–34 for more information on the advantages of both types.

2 Single-play position
See *Features* on page 34.

3 Auto scan for discs
See *Features* on page 34.

4 Repeat play functions
See *Features* on page 35.

5 Random play functions
See *Features* on page 35.

6 Delete play
See *Features* on page 34.

7 Plays both 12 cm and 8 cm discs
Regular compact discs are 12 cm in diameter. Although less common, some 8 cm discs are also available. All the carousel models we tested can play the 8 cm discs as they are, but the **PIONEER** can't. You can buy an adaptor which a disc clips into, to make it 12 cm in diameter, but the **PIONEER**'s instructions advise you not to use one, so you would need to purchase a special 8 cm disc cartridge separately.

8 Remote on/off
Most models must be turned on at the player itself. However, with three models this can be done from the comfort of your armchair.

9 Headphone socket
Useful for quiet listening if no other part of your hifi system has a headphone socket. It's also the only way you can listen to a CD if you're only just starting to collect your component system and you don't have an amplifier yet. All models with a headphone socket also had a volume control for the headphones.

10 Features score
This is calculated on the basis of whether or not the player has the features we considered either useful, or important basics for a CD player:
- Single-play position.
- Auto scan for discs.
- Repeat play (three types).
- Random play (two types).
- Delete play.
- Plays both 8 cm and 12 cm discs without an adaptor or special cartridge.
- Remote on/off.
- Headphone socket with volume control.
- Current disc presented to front (not applicable for cartridge players).
- Exchange play (not applicable for cartridge players).
- Fade in/fade out.
- Index search.
- Intro play.
- Music search.
- Peak level search.
- Synchro recording.
- Volume control that can be accessed by remote.

We've listed the simpler features in the table and explained the others under *Features* on pages 34 and 35.

11 Ease of use score
This includes ease of designing a listening-only program and a manual program for recording to a specific tape length; the clarity, usefulness and quality of the display; the clarity and usefulness of the instruction manual; and the ease of use of the controls.

12 Programming score
We scored each player according to whether it had the seven most common and useful programming features which we thought were important for a multi-disc player. To score 100% a player had to be capable of:
- A listening-only program.
- Programming without locking each step in.
- Adding tracks to the end of a listening program.
- Changing tracks in the middle of a listening program.
- Automatic programming to a fixed tape length.
- Manual programming to a fixed tape length.
- Manual programming to a fixed tape length from more than one CD.

Some models had other programming features, but we didn't consider these to be important basics.

13 Overall score
The overall score is a combination of features, ease of use and programming, weighted as follows:
- Features score: 35%
- Ease of use score: 35%
- Programming score: 30%

CHECK STRAYS FOR MICROCHIPS

Recently, while rereading your October issue, I noticed the article *Pet ownership: your rights and obligations*. You make the point that people befriending a stray cat or dog should check for identification, that it may be owned even if it doesn't have a collar or tag. In particular, the animal might have a microchip, and should be taken to an animal welfare agency for checking.

I have two comments I would like to make. First, until more people know about microchips (and your article certainly helps here), registering a cat in this way doesn't necessarily mean they will be returned to you if they stray.

I have gone through the dreadful experience of a lost cat when my old tabby strayed from the very good care of a friend while I was away. Even though she had a microchip, and I had ensured telephone contact was easy, nothing has been heard of her since. She could not wear a collar as any sort caused a rash to develop, and so people who saw her, whether alive or dead, would probably assume she had been dumped. Not so — very much loved and wanted! Collars, in any case, can be lost.

This leads to my second point: pets should be checked for microchips no matter what state they are found in. I would much prefer to *know* my cat is dead than go on wondering about her. It would help very much if councils did make registration compulsory, because then everyone would expect it and act accordingly.

Finally, after my experience, I would urge other cat owners never to take their pet, particularly an old one, a long way from its own 'territory' for care in a private home, as the chances of its return home if it strays are greatly reduced. I have been told a lot of stories about the miraculous return of cats from great distances, but I believe these to be the exception, rather than the rule, especially where the animal is as old as mine.

If an animal-loving, reliable neighbour known to the cat is not available to care for it, the only safe place is a good cattery. Certainly these can be costly, but the cost is worth it when compared to the pain of losing a loved animal.

M L Allen
Gosford, NSW

Have any stray cats or dogs checked for microchips — a tattoo in the ear is one way to tell if they have one. They could belong to someone even if they don't have a collar or tag.

COOKING WITH A WOK

Earlier this year I purchased a Simpson wall oven and glass cooktop. I took this step after 12 months of planning. During this time I visited showrooms, talked to sales staff, read all the advertising material and brochures and consulted CHOICE.

After the builder had installed the cooktop, I was given a pamphlet called 'Cooktop instructions', which included the warning in bold type:

Do not use woks or similar utensils which could lead to overheating of hotplates and possible damage.

This was disappointing for me, as I cook many of my meals in a wok. In all my discussions and reading I had not encountered the warning given in the warranty document.

I rang the local distributor and was told that it might be all right to use a wok on an enamel cooktop, but certainly not on a glass one. It was suggested I put my problem in writing. On behalf of myself and my neighbour (who had the same experience), I did so and requested my glass cooktop be replaced by an enamel one.

I received no reply. Since, in the meantime, I have used a small wok on the glass cooktop without any adverse effects, I have no great need to follow up my original request.

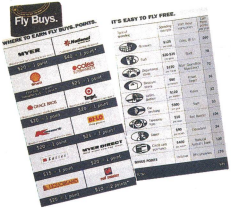
What I *do* suggest, however, is that people purchasing cooktops (and other appliances) should have access to the relevant warranty document and instructions. Alternatively, the manufacturers could add information about appropriate/inappropriate use of their goods in their advertising brochures (which, at present, are designed to impress, not to warn the potential puchaser).

J Grevillea
Wangi Wangi, NSW

Email has informed us that it's OK to use a flat-bottomed wok on any of its Simpson or Westinghouse stoves, regardless of which surface it is made from (glass, enamel, etc). However, don't use a round-bottomed wok that sits on a

metal stand on the element or gas burner, as heat builds up inside the stand to the point where it could craze the enamel or shatter the glass. Some Simpson gas stoves now have special fittings designed to hold round-bottomed woks.

Email agrees that its instruction booklet has not made this information clear and will correct it.



FLY BUYS: WHO GETS THE REWARD?

Has someone at Fly Buys missed the point? I thought the program was designed to 'reward' customers who spent their money with participating retailers.

Yet points are not available to those who buy gift vouchers (and who can choose whether they buy them at a Fly Buys store) — they are available only to those who redeem the vouchers (and who have no choice of where they can 'spend' them).

Where's the incentive to buy gift vouchers from Fly Buys store — and where's the logic in this policy?

S Walsh
Summer Hill, NSW

Fly Buys says it regards buying a gift voucher as an exchange of currency only, and not as an actual purchase, which is why the person cashing in the voucher is rewarded with points and not the giver of the voucher.

A Fly Buys representative suggested the person giving the voucher should ask the recipient to use their (the giver's) Fly Buys card rather than their own to claim the points — an odd suggestion as it's like asking for something in return for giving a present! It would make more sense for consumers if Fly Buys changed its rigid view of a gift voucher as 'currency'.

SUBSCRIBER 19th DRAW

For new subscriptions and renewals received January 1 to March 31, 1996.

Our 19th draw will be held on April 5, 1996. Two lucky people will win prizes from tests published in CHOICE in June and July 1995.

1st Prize: An electric convection heater (June 1995) valued up to $399.

2nd Prize: An upright vacuum cleaner (July 1995) valued up to $299.

These are products we bought for testing, so you won't be the first to turn them on or set them up. But we'll cover any service problems with a CHOICE warranty that'll match the manufacturer's — just as if you'd bought them new.

All new CHOICE subscriptions and renewals received from members and personal subscribers (including donors of gift subscriptions) by March 31 will go into the draw, unless of course you indicate you don't want to be included.

Subscriber draws are held every quarter — your renewal notice will have the details. If you're on a two-year subscription you'll be entered on your first anniversary as well as when you renew.

Use the order form overleaf

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After the beep

Answering machines have changed a lot over recent years. What used to be special features on only a few brands are now the norm — but just how useful are they?

THEY'RE FEATURE-PACKED, BUT whether you'll use every feature on your answering machine depends on your lifestyle — many of them are for operating your machine by remote control and retrieving messages while you're away from home, on holiday or at work.

Some machines also offer some fairly over-the-top features — for example, several even allow you to ring home, enter a code and then listen to what's happening in your living room.

Features aside, they're a popular product, and we've looked at the most popular type — machines costing less than $200 that you connect to your existing phone, rather than ones with a built-in phone.

GETTING CONNECTED

Anything you connect to your telephone line, including phones and answering machines, draws power from the line. This power draw is known as the REN (ringer equivalent number). It can vary from 0.5 to more than 1.5 REN for any one appliance. In general the capacity of a phone line is 3 REN, and if you exceed this by having too many appliances connected you may find that the volume of your phone's ring will decrease or it won't sound at all.

The REN number is printed on the bottom of many items (including some phones, answering machines, faxes, modems, etc) that you connect to your phone line.

If you're worried that the addition of an answering machine will take you over the limit, look for a machine with a low REN rather than a high one. Most of the machines we tested were between 0.5 and 1 REN, but the SANYO TAS230 was 1.7 REN and is best avoided if you have more than one phone in the house.

TOO MANY PARTIES ON THE LINE

Answering machines can behave differently depending on your phone line (how far it is from the exchange, etc). In particular, the auto disconnect feature that some models have will work in some situations but not others. Auto disconnect means the answering machine turns itself off automatically when you pick up the phone while someone is leaving a message.

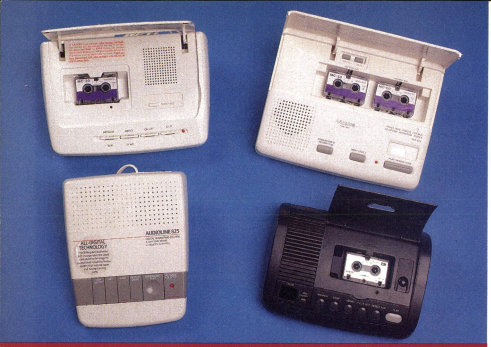
Auto disconnect can be very useful — if you intercept a call from an extension phone, for example, the answering machine in the other room won't carry on regardless. But if it doesn't work and you're in another room, you can't press the stop button on the answering machine, so it will record your two-way conversation.

Unfortunately our testing revealed it's not always possible to tell if you're going to have problems in your situation or not.

Are they the only answer?

An answering machine isn't the only way not to miss that all-important call. Telstra has just released a new answering service called Messagebank. For a connection fee of $10, plus $5 per month, it will record your messages. You retrieve them by calling a number and entering a PIN. Check with Telstra to see if it's available in your area.

Similar systems are also being offered by various mobile phone networks, so if you don't want to pay the initial outlay for an answering machine these services could be a viable option.



The four ways messages can be recorded (clockwise from top left): a single cassette for your recorded message as well as incoming calls; a separate cassette for incoming and outgoing messages; your message on a chip and a tape for incoming calls; messages in and out both recorded on a chip. The pros and cons of each are discussed below.

This is one reason some manufacturers choose not to have auto disconnect on their machines at all. For example, the two **TELSTRA** models tested don't have it, but get around this by allowing you to press the stop button on the machine or the * button on the extension phone to turn the answering machine off. While a correctly operating auto disconnect would be the preferable option, the stop or * button could be a safer bet.

CASSETTES OR CHIPS?

You can buy several different types of answering machine. **Integrated models** have an answering machine and phone combined into one unit. **Stand-alone machines** don't have a phone so they must be connected to your existing one. This is done either by plugging your phone directly into the back of the machine or using a double adaptor for the wall socket. Stand-alone answering machines are generally cheaper than integrated ones.

Different machines also use different methods to record messages. There are four main types.

■ **Single cassette.** A single tape is used for both the outgoing message (OGM) and incoming message (ICM). This is by far the most common system — the OGM is stored at the beginning of the tape and any ICMs are recorded after it. The disadvantage of this system is that after the caller hears the OGM they have to wait until the tape fast-forwards over any other existing messages before they can leave theirs. If there are lots of messages or even a few long ones this can be quite annoying. These machines tend to be cheaper than the other types because only one tape mechanism is needed.

■ **Dual cassette.** The OGM is stored on one tape and the ICMs are recorded on the other. This eliminates time spent waiting while the tape fast-forwards over existing messages. However, having two tape mechanisms could increase the chance of a breakdown, and this seems to be one of the biggest problems associated with answering machines that use tapes. Dual-cassette machines also tend to be more expensive than the single-tape type. There were only three dual-cassette machines in this test.

■ **Digital OGM and cassette ICM.** The OGM is recorded digitally on a computer chip, while the ICM is still recorded onto a cassette. These machines have the same advantages as the dual-cassette type but with only one tape mechanism that could go wrong. They tend to have very limited OGM recording time, but it should be adequate for most situations. Three models tested were of this type.

■ **Fully digital.** Both the OGM and the ICM are digitally recorded, so there's no tape mechanism to break down and no fast-forwarding past existing messages. The big disadvantage of this type of machine is the limited time available for ICMs. In some cases, you have a maximum of five minutes' recording time compared to 30 or 60 minutes for a cassette. Fully digital answering machines would not be suitable for people who receive large numbers of calls or for office situations.

WHAT TO BUY

	VOCA-PHONE AV-130	$130
	AVANTI AM101	$75
equal	**GENEXXA** TAD-976	$180
	GENEXXA TAD-977	$150
equal	**AUDIOLINE** 815	$100
	AUDIOLINE 825	$130
	GENEXXA TAD-275	$130
equal	**SANYO** TAS280	$150
	TELSTRA Monitor 301	$80
	SANYO TAS230	$100
	TELSTRA Monitor 350	$130

All these machines scored well, so based on price the **AVANTI AM101** and **TELSTRA Monitor 301** are our **Best Buys**.

Audio quality of all the machines except the NEC's OGM was acceptable, so the key is to choose a model that has the features you want and is easy to use. There are, however, some problems with a few of the models that make them less desirable. Some of these problems may seem minor, but when there are better models out there, why settle for less?

The problems we found include:

■ The machine automatically turns on after a power failure, even though you had the switch set to off. It will then record messages even if you're at home and didn't want the machine on. The **AUDIOLINE 830, GE FEA2-9807** and both **PANASONIC** models suffered from this.

■ If the tape is full, the machine won't answer any calls — which means you can't phone in from a remote location to retrieve your messages and then clear the tape — the machine won't answer your call. The **AUDIOLINE 830** had this problem.

■ No fast-forward feature. This was a problem with the **GE FEA2-9807** and **PANASONIC KX-T1006BA.**

■ Very noisy tape mechanism. The **PANASONIC KX-T1446BA** could be annoying.

Combinations of these problems on these four phones led us to classify them as 'not recommended'. The **NEC FA-10** also joins the 'not recommended' group for the poor audio quality of its OGM.

Features

COMMON FEATURES

There are so many features we can't fit them all in the table overleaf. Some are common to all the models tested, the more important ones being:

- **Message counter**, to indicate how many calls have been received.
- **VOX** or **voice-activated recording**, which will cause the machine to stop recording if the caller stops talking for more than a short time or hangs up.
- **Remote playback of messages:** Handy for when you're away from home for an extended time.

OTHER FEATURES

Message default

Some machines assume you want to save messages but give you the option of erasing them (shown as 'save' in the table); others assume you only want to listen to them once, but give you the option of saving (shown as 'erase' in the table).

We thought the former was more useful, particularly where more than one person in the household is likely to receive messages.

With all the models tested except the two **SANYOs** and two **VOCA-PHONEs**, the default when reviewing the messages by remotes is to save them.

Time / date stamp

The time of day and the day of the week are recorded after each message so you know when it was left. The machines in the test with this feature (see the table) can also be used as a talking clock; they will announce the time of day when a button is pressed.

Announce only

The machine can be set to make an announcement only and not record any messages. The **GENEXXA TAD-976** and **TAD-977** are less convenient because in order to do this you have to remove the tape used for recording the messages, disconnect the machine, then reconnect it. All the other models with this feature activate it by a switch.

Tape full indicator

The machine will indicate when the tape is full by a rapidly flashing light. The **SANYO TAS280** also indicates a full tape on its digital display. The **GENEXXA TAD-976** and **TAD-977** will give a tape full announcement to the caller (if you've recorded one).

Memo Function

You can leave a message directly on the machines for other members of your household or as a personal reminder. These are played back along with any messages received.

Fast-forward / rewind

All the models could rewind the tape and all but the **GE FEA2-9807** and the **PANASONIC KX-T1006BA** could also fast-forward. These features are useful for finding particular messages that you may want to review. The **GE** was able to fast-forward but only to the end of the messages to leave a memo, not to stop along the way and review messages. Audible fast-forward/rewind (where you can hear the messages whiz past) is best, as it helps you find the start or finish of the messages; only the **GENEXXA TAD-905** was audible.

Remote on / off

With all the models tested you can turn the machine on by ringing your number from an outside location. This is useful if you've forgotten to turn it on before you left the house. Some machines (see the table) allow you to turn them off by ringing and entering the appropriate code.

Remote fast-forward / rewind

If you phone home to listen to your messages (remote playback), which all the machines we tested can do, it's useful to be able to fast-forward or rewind too. You do this by entering a code which allows messages to be skipped or repeated.

Remote memo

After phoning in to listen to your messages by remote, you can leave a message for yourself or another user of the machine. This is useful, as otherwise you would have to ring back and leave a message in the normal way.

Remote OGM bypass

If you're ringing to review the messages you've received, you don't want to listen to the outgoing message. Some models allow you to bypass this by entering a code when it starts to play. With the **PANASONIC KX-T1446BA** anybody can do this by pressing the * button on the phone.

Tollsaver

Machines with this feature (see the table) will answer a call after the second ring if new messages have been received or after the fourth if there are no new messages. If you're ringing to play back your calls and the machine doesn't answer after the second ring, you can assume there are no new messages and hang up, saving yourself the cost of the call.

However, with most models, if there were messages, and you reviewed them, you must erase them, or the tollsaver feature won't work the next time you call — not much use if you're away for a few weeks. The **GENEXXA TAD-905**, **TAD-976** and **TAD-977** and both **PANASONIC** models use a better system where they will indicate whether any calls have been received since you last called, regardless of whether you saved or erased any previous calls.

Answering machines

1

	Brand/model (in rank order)	Manufacturer/ distributor	Origin	Target price ($)*	Warranty (years)	Machine type	Message default	Time/date stamp
	VOCA-PHONE AV-130	Voca Communications	China	130	1	Digital (OGM), microcassette (ICM)	Erase	
	AVANTI AM101	GAF	China	75	1	Single microcassette	Save	
equal	**GENEXXA** TAD-976	InterTAN	China	180	1	Dual microcassette	Erase	✓
	GENEXXA TAD-977	InterTAN	China	150	1	Dual microcassette	Erase	
equal	**AUDIOLINE** 815	Moss Security	China	100	1	Fully digital	Save	
	AUDIOLINE 825	Moss Security	China	130	1	Fully digital	Save	✓
equal	**GENEXXA** TAD-275	InterTAN	China	130	1	Digital (OGM), microcassette (ICM)	Erase	
equal	**SANYO** TAS280	Sanyo	China	150	1	Digital (OGM), microcassette (ICM)	Erase	✓
	TELSTRA Monitor 301 *(A)*	Telstra	Thailand	80	1	Single microcassette	Save	
	SANYO TAS230	Sanyo	China	100	1	Single microcassette	Erase	
	TELSTRA Monitor 350 *(A)*	Telstra	Thailand	130	1	Single microcassette	Save	✓
	VOCA-PHONE AV-125	Voca Communications	China	100	1	Single microcassette	Erase	✓
	GENEXXA TAD-905 *(B)*	InterTAN	China	90	1	Single microcassette	Erase	
	NOT RECOMMENDED (in rank order)							
	NEC FA-10	NEC	China	100	1	Single microcassette	Erase	✓
	PANASONIC Easa-Phone KX-T1446BA	Panasonic	Japan	170	1	Dual standard cassette	Save	
	AUDIOLINE 830	Moss Security	China	80	1	Single microcassette	Save	
	PANASONIC Easa-Phone KX-T1006BA	Panasonic	Japan	100	1	Single microcassette	Erase	
	GE FEA2-9807	TCE Marketing	China	85	1	Single microcassette	Save	

* Prices shown are a good target to aim for when shopping around, based on nationwide checks in December 1995, except for the Genexxa TAD-977 and the Audioline 825, where the prices are manufacturers' 'go' prices.

(A) The models we tested were labelled Telecom. Since testing the name has been changed to Telstra. They are otherwise identical.

(B) The model tested was labelled Netset. At the time of testing it was undergoing a name change to Genexxa. All Genexxa models will be changing to Radio Shack during 1996. You'll probably find all three brand names in the shops.

(C) Inconvenient to use.

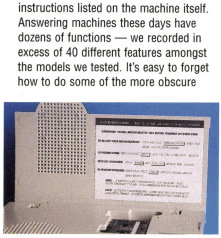
(D) Only to get to the end of the messages to record a memo, not for reviewing messages.

(E) Only for short periods of time.

(F) Poor OGM, good ICM.

What to look for

- Decide which type of answering machine best suits your needs — would you be happier with a stand-alone or integrated machine, a single or dual-tape or a fully digital model? (See *Cassettes or chips?* on page 42 for a description of each.) Do you want your messages to be saved or erased after replaying them? Keep in mind the use the machine is likely to get and the fact that tape mechanisms can be prone to breakdown. In addition the single-tape type will have your callers waiting for long periods while the tape fast-forwards over existing messages. Fully digital machines, however, aren't suitable if you get lots of calls.
- Look for machines with well spaced controls and good clear labelling. If the buttons have more than one function, make sure they're labelled as such.
- Retrieving messages and resetting the machine to take new ones should be easy to do with the press of one button, not several, as for many older models.
- Look for a model with the basic instructions listed on the machine itself. Answering machines these days have dozens of functions — we recorded in excess of 40 different features amongst the models we tested. It's easy to forget how to do some of the more obscure functions when you don't use them very often (or even some of the more common ones, for some of us). Many brands also supply a card that can be kept in your wallet or purse for accessing the machine from a remote location — very handy for when you forget the different codes or buttons that tell the machine what to do.
- Decide which features you'd find useful in a machine. We've described the ones we think are most important, but some machines can also do things like record two different OGMs, monitor the room from a remote location, play music during rewind or fast-forward, allow you to change remote security codes, emit a loud beep to alert someone to pick up the phone (called call breakthrough) and so on.



Tape full indicator	Memo	Fast-forward / rewind	Remote on / off	Remote fast-forward / rewind	Remote memo	Remote OGM bypass	Tollsaver	2 Message clarity	2 Ease of use score (%)	3 Brand/model (in rank order)	
✓	✓	✓/✓	✓/✓	✓/✓		✓	✓	Good	78	**VOCA-PHONE** AV-130	
✓	✓	✓/✓	✓/–					Good	74	**AVANTI** AM101	
✓ *(C)*	✓	✓/✓	✓/–	✓/✓	✓	✓	✓	Good	74	**GENEXXA** TAD-976	equal
✓ *(C)*	✓	✓/✓	✓/–	✓/✓	✓	✓	✓	Good	74	**GENEXXA** TAD-977	
	✓	✓/✓	✓/–					Good	73	**AUDIOLINE** 815	equal
	✓	✓/✓	✓/–					Good	73	**AUDIOLINE** 825	
		✓/✓	✓/–		✓		✓	Good	72	**GENEXXA** TAD-275	
✓	✓	✓/✓	✓/✓	✓/✓		✓	✓	Good	72	**SANYO** TAS280	equal
✓	✓	✓/✓	✓/✓	✓/✓		✓	✓	Good	72	**TELSTRA** Monitor 301 *(A)*	
✓	✓	✓/✓	✓/✓	✓/✓		✓	✓	Good	70	**SANYO** TAS230	
✓	✓	✓/✓	✓/✓	✓/✓		✓	✓	Good	68	**TELSTRA** Monitor 350 *(A)*	
✓	✓	✓/✓	✓/✓	✓/✓			✓	Good	64	**VOCA-PHONE** AV-125	
		✓/✓	✓/–		✓		✓	Good	60	**GENEXXA** TAD-905 *(B)*	
										NOT RECOMMENDED (in rank order)	
✓	✓	✓/✓	✓/–				✓	Poor *(F)*	72	**NEC** FA-10	
✓	✓	✓/✓	✓/✓	✓/✓ *(E)*	✓	✓	✓	Good	71	**PANASONIC** Easa-Phone KX-T1446BA	
✓	✓	✓/✓	✓/–					Good	70	**AUDIOLINE** 830	
	✓	–/✓	✓/–	–/✓ *(E)*	✓	✓	✓	Good	62	**PANASONIC** Easa-Phone KX-T1006BA	
✓	✓	*(D)* /✓	✓/–			✓		Good	60	**GE** FEA2-9807	

1 Machine type

There are four types of answering machine in this test. They are:

- **Single microcassette**, which uses the same tape to record the announcement and messages.
- **Dual cassette** (either micro or standard), which records the announcement on one tape and the messages on the other.
- **Digital OGM** (outgoing message) with a tape for incoming messages.
- **Fully digital** for both announcement and messages.

The relative merits of the four types are discussed in more detail on page 42.

FEATURES

All the features listed in the table are explained in detail on page 43.

2 Message clarity

All the machines were assessed for the clarity of both incoming and outgoing messages. While none could be described as having hifi-quality sound, all but the **NEC** delivered messages that were clear and adequate for the job intended. The incoming messages on the **NEC** were fine, but the outgoing message had an annoying background noise.

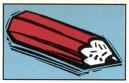
Digital messages in general were judged to be just as good as those on tape.

3 Ease of use score

All the models in the top part of the table are OK, as they don't exhibit any of the annoying features listed under *What to buy*, on page 42. However, some are easier to use than others, so they're ranked on their ease of use score. *What to buy* also explains why the five models at the bottom of the table are not recommended.

The ease of use score is made up of four factors, weighted as follows:

- Ease of using controls and logic of operation: 40%
- Layout of controls: 20%
- Labelling of controls: 20%
- Quality of instructions: 20%



WHAT DO YOU KNOW?

RECALLS AND BANS

1 Jet lag is made worse by:
A) Eating lunch at 3 am.
B) Lack of sleep.
C) Too many free drinks.
D) All of the above.

2 A cup of instant coffee has more caffeine than a cup of strong tea.
True or false?

3 Rosecoco, pink and roman are all types of what?
A) Interior paint schemes.
B) Beans.
C) Roses.
D) Computer typefaces.

4 An average car with a 2 L engine, driven about 20,000 km a year, releases about how much greenhouse gas into the air each year?
A) Almost 50 kg.
B) Almost 500 kg.
C) Almost 5000 kg.

5 Australian households use on average about half their energy for heating and cooling.
True or false?

6 Your home is exempt from capital gains tax if you sell it.
True or false?

7 A geothermal heat pump is:
A) A device that takes heat from the earth's core.
B) An air conditioning system.
C) An electricity generating system.

8 Last year inflation was about 5%. If it continues at this rate, how much will $1000 be worth in today's terms in 25 years?
A) $295
B) $560
C) $785
D) $950

ANSWERS

1. D. Jet lag is due to the disruption of your body's natural rhythms for sleeping and eating, and it's made worse by all the above.

2. False. A cup of instant coffee (made with one teaspoon of coffee) contains 60 mg of caffeine, while a strong cup of tea has 80 mg. However, a cup of average-strength tea is slightly lower, with 50 mg caffeine.

3. B. Rosecoco and roman are also known as borlotti beans. They are beige or brown, and commonly speckled with pink. Pink beans are a type of kidney bean with a dark pink skin.

4. C. It releases almost five tonnes of greenhouse gas each year, or about 250 g per kilometre.

5. True. Energy usage varies in different climate zones. As an average throughout Australia, about 42% of household energy is used for heating and cooling.

6. True. If you live in your house or unit it is exempt from capital gains tax.

7. B. Geothermal pumps are a cooling and heating system — in winter, they pump heat from the ground into the house, and in summer they do the reverse, pumping heat from the house into the ground.

8. A. It's important to allow for inflation when thinking about sums of money in the future — for example, when looking at quoted returns from investments, inflation can erode the real value of a lump sum significantly.

If you find a recall or ban not on our list, please let us know. Companies often rent 008 or 1800 numbers for a couple of months after the recall is announced. If the number given is no longer operating, phone the manufacturer or retailer direct.

Fast Lane Australia has recalled INFANT BEARY XMAS ROMPERS, as the metallic stud on the garment can be dislodged and could cause an ingestion hazard. Return the garment to the place of purchase for a full refund. For more information, call (03) 9417 5587.

Cadbury has recalled a limited number of CADBURY'S BLACK FOREST 250 g CHOCOLATE (Best Before Code Number 06 Oct 96 E) as they have been incorrectly packaged and contain Cadbury's Fruit and Nut chocolate, and not the Black Forest block as stated on the wrapper. It's possible that someone with an allergy to nuts could mistakenly handle or consume the wrongly labelled chocolate, which could cause an allergic reaction. If you have a block with the code mentioned above, please advise the company on 1800 642 577, 1800 657 021 or 1800 803 770. Cadbury will arrange for a pick-up of the product and a full refund.

MNB Electronics has recalled SUN & FUN INFLATABLE SWIM RINGS and SWIM AIDS, sold in NSW and Queensland, as they do not comply with Australian Standard 1900-1991 on Flotation Toys and Swim Aids for Children. Please contact (02) 690 1622 for more information.

Reed For Kids has recalled DISNEY 'SQUEEZE ME' BOARD BOOKS because the clear laminate film on the cardboard cover could be peeled off and could pose a potential choking hazard for small children. The recall applies to the Disney 'Squeeze me' series only, with titles: *Follow that squeak (Mickey Mouse); Hide and Squeak, Meeko! (Pocahontas); Simba roars (Lion King); Squeak Abu (Aladdin); Don't forget, Dumbo!; Snuggle up (Winnie the Pooh); Uh oh, Dopey (Snow White); Speak up, Patch (101 Dalmations).* The books are 14 cm square and feature a rubber character that makes a noise when squeezed. Remove the book from the reach of small children, and mail it postage free to: Reply Paid Number 75, Attention Jenny-Anne West, Reed For Kids, 17-23 Redwood Drive, Dingley 3172. Include your name and full mailing address, and in exchange for the returned copy, you will receive a selection of the latest Disney books.

James Hardie Building Services has recalled QUELL 1.1 kg AB(E) FIRE EXTINGUISHERS, Model P/N 016-09650. Due to contamination of the AB(E) powder in the extinguisher it's possible that extreme temperatures may cause the extinguisher's internal pressure to build to the extent that the casing may rupture. Affected models are in the serial ranges 017763NA to 019347NA and 019393NA to 021000NA, supplied between 20/10/93 and 31/8/94. Models within these ranges should be returned to the nearest Quell distribution centre and will be replaced. For information about the centres' locations, ring toll-free on 1800 654 435.

CHOICE

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SAFETY WARNING

Vulcan has issued a public safety warning about VULCAN QUASAR and PYROX GEMINI GAS WALL FURNACES, covering all models manufactured since mid 1984. After prolonged use of the furnace, a combination of circumstances can cause an overheating situation which could result in damage to surrounding building material. All furnaces covered by this warning have a rectangular opening at the bottom of the front panel containing vertical fixed louvres. Only use the appliance as follows: set the gas control knob at the lowest heat setting, and set the fan switch at the highest speed. For a free inspection, contact the Vulcan/Pyrox information line on 1800 067 263.

Freedom Furniture has recalled TERRACE OUTDOOR FOLDING CHAIRS sold through its stores from August 1995 to January 1996. Ongoing quality tests and the occurrence of some chairs collapsing indicate that they need strengthening. Take the chairs to your nearest Freedom store and contact the store manager. The chairs will be strengthened on the premises by inserting metal nails into the seat frame, at the expense of Freedom Furniture. Do not use this chair until it has been modified. For further inquiries, ring toll-free on 1800 643 169.

Franklins is recalling the SUPERTOYS 'LOOK IN' SEE AND PLAY POPPING TRUCK, sold in NSW and Queensland. The toy contains coloured plastic beads in various sizes. The perspex case may break if dropped and the coloured beads could pose a choking hazard. Return the product to the Franklins store from which it was purchased for a full refund. For further information, call customer services on (07) 3362 8700 (24-hour hotline: 1800 814 771, only available in Queensland).

Franklins has recalled NO FRILLS FINEST SEEDLESS DATES 500 gm, APN No. 93101722092538. A capsule of the antibiotic ampicillin trihydrate was found in one packet of dates. (People allergic to penicillins may also react to ampicillin.) The dates affected have the batch codes 5345D and 5345A, use-by date 11 Dec 96, and batch code 5346D, use-by date 12 Dec 96. The dates were sold through Franklins stores in NSW, Queensland, Victoria and SA. They were removed from sale on January 19, 1996. Return them to your nearest Franklins store for a full refund. For inquiries telephone Franklins' Customer Services, (02) 722 1400, or the 24-hour hotline: 008 621 111.

Franklins has recalled BABY DAYS NEW DECORATED SOOTHER, item no. BH 31005, batch code 24194, as the plastic guard on the dummy may split or break. This could leave the teat bulb unprotected and as a result it could be swallowed by a baby or a small child. Return the product to the Franklins store from which it was purchased for a full refund. For inquiries, call Franklins' Customer Services, (02) 722 1409, or the 24-hour hotline: 008 621 111.

TWELVE-MONTH INDEX

APRIL 1995 — MARCH 1996

(T) Test
(D) Includes assessment of suitability for people with disabilities
(U) Update of previous report
*** Additions or corrections to reports, small follow-up items, or letters**

Air conditioners Nov (T), Feb*
Air pollution Jul, Oct*
Airline overbooking Dec
Alarm systems, home Mar
Alcohol, health effects Aug
Answering machines Mar (T)
Anti-scald devices Jul (T)

Banks
  savings accounts Oct, Dec*, Jan (*,U)
Battery recharger Jul (T)
Blenders, handheld Dec (T,D), Feb*
Buying guide, annual Dec

Cars
  air conditioning Oct, Dec (U)
  anti-lock braking systems Aug
  child restraints Apr (T), Jul*, Feb (U)
  insurance May, Jul (U), Aug*, Nov*
  Landcruiser tyres Apr
Cassette decks Jan (T), Mar*
CD players, multi-disc Mar (T)
Children
  car restraints Apr (T), Jul*, Feb (U)
  dummies Feb
Clothes dryers Oct (T,D)
Commonwealth Government appeals Jun
Computer basics Mar
Convection heaters Jun (T)
Cooktops, electric Jun (T,D), Mar*
Cooling your home Nov
Cordless drills Aug (T,D), Nov*

Detergents, laundry Aug (T), Nov*
Disabled, rights Jun
Dishwashers Apr (T,D), Aug*
Dispute resolution Sep
Drills, cordless Aug (T,D), Nov*
Drinking water quality Sep
Dummies, safety Feb

Electromagnetic fields Jan

Fax machines Aug (T)
Film, colour print Jun (T)
Financial planners Apr, Jun*, Aug*
Food
  bottled water Feb
  ice cream and 'soft-serve' Jan(T)
  kangaroo meat Jun
  margarine and spreads, trans fat Oct (T)
  mince, 'lean' Jul (T)
  processed meat May
  weight loss programs Nov, Jan*
Fridges, 500 L Dec (T), Feb (U)

Green' homes Apr
Greening your office Sep

Hair removal Sep (T)
Health services Aug
  doctors and specialists Aug
  for travellers Dec, Feb (U)
  informed consent Aug
  hospitals Mar
  making a complaint Aug
Hearing damage Apr
Heaters, convection Jun (T)
High chairs Sep (T,D)
Home and contents insurance Feb
Home security Mar
  alarm systems Mar
  window locks Mar (T)
Hormone replacement therapy Nov
Hospitals, surviving Mar

Ice cream Jan
Index, four-year Jun
Insurance
  car May, Jul (U), Aug*, Nov*
  home and contents Feb
Internet Jul
Investing in shares Sep, Nov*
Investment advice Apr, Jun*, Aug*

Kangaroo meat Jun

Laundry detergents Aug (T), Nov*
Lawnmowers, electric Nov (T)
Lead May

Meat
  kangaroo Jun
  processed May
Mediation centres Sep
Microwave ovens, 25-30 L Feb (T,D)
Mobile phones, digital Jan (T)
Modems, buying a package Sep
Multimedia Nov

On-line information services Sep
Ovens
  wall, electric multi-function Feb (T,D)
  microwave, 25-30 L Feb (T,D)
Overlockers May (T)

Paint, exterior May (T)
Pay TV May
Personal loans Jan
Pet food Oct
Pets, rights and responsibilities Oct, Dec*, Mar*
Phones, mobile digital Jan (T)
Pollution, air Jul, Oct*
Printers, colour inkjet Oct (T), Nov (U)
Product liability Jul

Refrigerators, 500 L Dec (T), Feb (U)
Removalists Aug
Renting vs buying a home Jul
Republic choices Nov

Savings accounts Oct, Dec*, Jan (*,U)
Scotch Dec (T)
Shares Sep, Nov*
Ski holidays Jun
Smart cards Feb
Soft-serve 'ice cream' Jan (T)
St George appliances May, Sep

Tampons/toxic shock Jun
Televisions, 51 cm Apr (T)
Term deposits Mar
Termite inspections Jan (T), Mar (*,U)
Trans fat, in margarine, etc. Oct (T)
Travellers' health Dec, Feb (U)
Tyres, Landcruiser Apr

Vacuum cleaners, mid-priced Jul (T,D)

Wall ovens, electric multi-function Feb (T,D)
Washing machines Dec (T,D), Feb*
Water, bottled Feb
Water quality Sep
Weight loss programs Nov, Jan*
Whisky, scotch Dec (T)
Wills, making one Feb
Window locks Mar (T)
Windows 95 Jan

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